ENVIRONMENTAL REVIEW (SEPA) APPLICATION CHECKLIST

Community Development Department • 80 Columbia Avenue • Marysville, WA 98270
(360) 363-8100 • (360) 651-5099 FAX • Office Hours: Monday - Friday 7:30 AM - 4:00 PM

Washington State Environmental Policy Act, RCW 43.21C

Washington State Administrative Code, WAC 197-11-960 Environmental Checklist

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants*:** [help]

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

NOTE: The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. You may

be asked to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Required Attachments

Submit the original checklist form and six (6) copies (for a total of seven (7)) along with seven (7) copies of each of the following:

1. Vicinity map clearly showing the location of the project with respect to public streets and other parcels and development
2. Site plan (at original drawing size)
3. Site plan (reduced to not larger than 11 x 17-inch size)
4. Conceptual building elevations
5. Conceptual vehicle maneuvering diagram (when applicable)

Submit four (4) copies of the following when appropriate:

1. Wetland Delineation
2. Geotechnical Reports
3. Fisheries Study

The site plan must show north arrow and engineering scale; any significant or natural features such as creeks, wetlands, steep slopes; dimensions and shape of the lot; location and size of existing and proposed buildings and development, including parking and landscape areas, adjacent streets and point of ingress and egress, and adjacent uses.

Correspondence

Note that all correspondence regarding the environmental review of your project will be sent to the person listed as **Applicant.**

Application Format

The application will only be accepted if the original form is used (with typewritten answers in the spaces provided) or the application is reproduced in identical form.

Fees

There is a nonrefundable application fee for all environmental checklists. Submit the fee with the application(s) and make checks payable to the City of Marysville.

Residential (1-9 lots or dwelling units)	$350.00
Residential (10-20 lots or dwelling units)	$500.00
Residential (21-100 lots or dwelling units)	$1,000.00
Residential (greater than 100 lots or dwelling units)	$1,500.00
Commercial/Industrial (0 to 2 acres)	$350.00
Commercial/Industrial (2.1 to 20 acres)	$750.00
Commercial/Industrial (greater than 20 acres)	$1,500.00

Pre-application Conference

Most projects that are not categorically exempt from SEPA will require a pre-application conference; in some cases, at the discretion of the Community Development Director, the pre-application conference may be waived.

The pre-application conference must be conducted prior to the submittal of the environmental

checklist.

SEPA Exempt Determinations

Projects that meet the thresholds for categorical exemptions of Chapter 22E.030 MMC are exempt from filing an environmental checklist. All other project and non-project actions require a completed environmental checklist and a project permit application to be submitted. If an applicant feels that their proposal should be considered to be SEPA-exempt, the applicant can submit a letter requesting a SEPA exempt determination with the environmental checklist and fee. The Community Development Director will review the request and if the application is determined to be SEPA exempt, a letter will be issued confirming the SEPA exempt status.

Project Phasing

The Checklist questions apply to all parts of your proposal, even if you plan to phase the project over a period of time or on different parcels of land. You must include any additional information that helps describe your proposal or its environmental effects. You may be asked to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact(s).

SEPA Appeals

Any agency or person may appeal a Determination of Non Significance (DNS) or Determination of Significance (DS) by completing and submitting an appeal form to the Hearing Examiner within fourteen (14) calendar days of the date the determination is final. Such appeals must be filed with the City Clerk. Appeals of environmental determinations under SEPA, including administrative appeals of a threshold determination, shall be heard by the Hearing Examiner and shall proceed pursuant to Chapter 22G.010 Article VIII *Appeals*. There is a nonrefundable $500 Administrative Appeal fee to be submitted with appeal.

A. BACKGROUND [help]

1. Name of proposed project, if applicable: [help]

   Cedar Field Athletic Surfacing and Lighting Project

2. Name of applicant: [help]

   City of Marysville, Engineering Dept., Kyle Woods

3. Address and phone number of applicant and contact person: [help]

   80 Columbia Avenue, Marysville, WA 98270

   360-363-8286

   Kyle Woods

4. Date checklist prepared: [help]

   9/30/2018

5. Agency requesting checklist: [help]

   City of Marysville, Washington

6. Proposed timing or schedule (including phasing, if applicable): [help]

   Permitting: SEPA September 30, 2019 through November 2019

   Construction: Athletic Surfacing and Lighting construction November 2019– February 2019.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [help]

   There are no plans for future additions, expansions, or further activity related to this proposal.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [help]

   Geotechnical Study

   Cultural Resources Assessment

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [help]

   No.

10. List any government approvals or permits that will be needed for your proposal, if known. [help]

    City of Marysville: Land Use Application, Electrical Permit, Grading permit

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [help]

The proposed project will occur in Marysville, WA at 1010 Beach Ave, Marysville, WA 98270. Currently the field is used as a Little League (age 10-12) baseball field. The current field consists of natural grass and dirt surfaces. The field was previously lit by metal halide lights so that games can be played during hours of darkness.

The proposed plan is to replace the dirt and grass surface with a synthetic playing surface. We will also replace the light poles and previously exisiting metal halide lighting with L.E.D. lighting. The lights at the top of the poles had been previously removed due to storm damage, however the wooden light poles remain.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [help]

This project is located at the physical address of 1010 Cedar Ave, Marysville, WA 98270 at 48.057523,-122.181067 Lat/Long, Township 30N R5E Section 28. A legal description, site plan

B. ENVIRONMENTAL ELEMENTS [HELP]

1. Earth

a. General description of the site [help]
(***bold/italicize***): ***Flat***, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)? [help]

3%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [help]

Marysville Recessional Sands consisting of massive, loose to medium dense sand and gravel with variable silt content.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [help]

No.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [help]

The existing baseball field surface has an area of approximately 39,000 ft2. The anticipated excavation quantity is approximately 1000 YD2, and the anticipated

fill quantity is 1000 YD2. The existing grass and dirt field will be excavated to a depth of 8", and it is anticipated that there will be a fill of 8" consisting of gravel, and a rubber composite fill under the synthetic playing surface.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [help]

No erosion is anticipated as a result of clearing, construction, and use. BMP will be used during all construction activities.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [help]

Entire Parcel FT2 = 107,877 FT2

Current Impervious are of parcel= 60,305 FT2 or 56%

Proposed Impervious area of parcel= 89,033 FT2 or 83%

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [help]

A Stormwater Pollution Prevention Plan will be submitted by the City. The City will also supply a Certified Erosion and Sediment Control Lead who will be onsite when construction activities are taking place.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [help]

General engine emissions from construction equipment such as backhoes, loader, bulldozers, and tractor trailers.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. [help]

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [help]

All equipment will meet stated Federal clean air standards.

3. Water

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [help]

There are no surface water bodies on or in the immediate vicinity of the site.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [help]

N/A

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [help]

None.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [help]

This proposal will not require surface water withdrawals or diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [help]

All portions of this trail will be above the 13 foot ordinary high water mark and not in the 100-year floodplain. A FEMA flood map is attached.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [help]

No discharge of waste materials is anticipated.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [help]

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. [help]

No waste material will be discharged.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [help]

This project is anticipated to have 100% infiltration with no runoff. An 8" subsurface drain pipe will installed and connected to the nearby stormwater system for backup if the infiltration system gets inundated wth a storm event.

2) Could waste materials enter ground or surface waters? If so, generally describe. [help]

No.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No, the synthetic field surface can be installed on flat ground.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

The synthetic surface and underlying Marysville Sands soil will produce an anticipated 100% infiltration. An 8" pipe network will be installed as backup for storm events where the infiltration cannot keep up and will also prevent flooding. The runoff, if captured by the pipe system, is then conveyed to the water body of Ebey Slough / Puget Sound.

4. Plants [help]

a. ***Bold/Italicize*** the types of vegetation found on the site: [help]

deciduous tree: **None**
evergreen tree: **Fir**
grass
pasture
crop or grain
Orchards, vineyards or other permanent crops.
wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
water plants: water lily, eelgrass, milfoil, other
other types of vegetation

b. What kind and amount of vegetation will be removed or altered? [help]

Grass, Fir Trees

c. List threatened and endangered species known to be on or near the site. [help]

None.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [help]

There are no proposed landscaping items related to this project.

e. List all noxious weeds and invasive species known to be on or near the site.

None.

5. Animals

a. ***Bold/Italicize*** any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include: [help]

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

b. List any threatened and endangered species known to be on or near the site. [help]

None.

c. Is the site part of a migration route? If so, explain. [help]

The Pacific Flyway.

d. Proposed measures to preserve or enhance wildlife, if any: [help]

There are no proposed measures to preserve or enhance wildlife.

e. List any invasive animal species known to be on or near the site.

None known.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [help]

The equipment will require diesel fuel. The paving of asphalt will require oil/petroleum binders.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. [help]

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [help]

None.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. [help]

No.

1) Describe any known or possible contamination at the site from present or past uses.

None.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas

transmission pipelines located within the project area and in the vicinity.

Fueling of vehicles and equipment will take place on-site. BMP's and a spill kit will be onsite at tall times to mitigate any fuel spills or leaks.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

None.

4) Describe special emergency services that might be required.

None.

5) Proposed measures to reduce or control environmental health hazards, if any:

None.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [help]

There will be background traffic noise from the adjacent roadway, as well as ordinary residential noises such as residential construction or yard maintenance activities.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. [help]

Construction between the hours of 6AM to 6PM.

3) Proposed measures to reduce or control noise impacts, if any: [help]

None.

8. Land and shoreline use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [help]

The current zoning at the proposed project site is Mixed Use. The current use of the site is as a recreational facility. Historical orthophotos from 1965 show the site being used as a baseball field, it's current use today. This proposal will not affect current land uses on nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [help] **No.**

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of

pesticides, tilling, and harvesting? If so, how:

No.

c. Describe any structures on the site. [help]

There are grandstand structures and a clubhouse structure consisting of a two-story building with storage

d. Will any structures be demolished? If so, what? [help]

No.

e. What is the current zoning classification of the site? [help]

The zoning classification on this project is Mixed Use.

f. What is the current comprehensive plan designation of the site? [help]

The zoning classification of this site is designated Mixed Use in the City of Marysville's comprehensive plan.

g. If applicable, what is the current shoreline master program designation of the site? [help]

N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [help]

No.

i. Approximately how many people would reside or work in the completed project? [help]

None.

j. Approximately how many people would the completed project displace? [help]

None.

k. Proposed measures to avoid or reduce displacement impacts, if any: [help]

NONE.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [help]

THE PROJECT AS PROPOSED IS CONSISTENT WITH THE CITY'S COMPREHENSIVE PLAN.

THE PROJECT WILL WORK WITH THE CITY OF MARYSVILLE'S COMMUNITY DEVELOPMENT DEPARTMENT TO ENSURE COMPATIBILITY TO PROJECTED LAND USES AND PLANS.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

N/A

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [help]

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [help]

None.

c. Proposed measures to reduce or control housing impacts, if any: [help]

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [help]

(4) 60' tall light poles will be constructed as part of this project.

b. What views in the immediate vicinity would be altered or obstructed? [help]

None.

c. Proposed measures to reduce or control aesthetic impacts, if any: [help]

The l.e.d. light system will contribute to less light spillage outside of the baseball field as compared to the previous use of metal halide lighting.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [help]

This project will incorporate l.e.d. lighting on top of 60' metal poles. The lighting diagram provided by the light manufacturer shows that there will be no light spillage onto existing adjacent properties. The illumination summary is attached.

b. Could light or glare from the finished project be a safety hazard or interfere with views? [help]

No.

c. What existing off-site sources of light or glare may affect your proposal? [help]

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

Manufacturer designed l.e.d. lighting with hoods to control light spillage.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity? [help]

This site has been used as a recreational baseball facility for over 55 years. Directly adjacent to the baseball field is a Boys and Girls club building, which was previously a YMCA facility.

b. Would the proposed project displace any existing recreational uses? If so, describe. [help]

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [help]

This project will be directly providing recreation in the form of youth sports, and will be better utilized by a surface that can be used year-round in any weather condition.

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. [help]

No.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [help]

None Known.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [help]

If any cultural or historic resources are found, work will be stopped and the appropriate tribal and government agencies will be contacted. The UDP plan discussed in the cultural resources assessment will be followed.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

A cultural resources assessment has been completed.

Cut sections will be minimized in all locations to avoid and minimize disturbance to any possible resources.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [help]

This project is bounded by Cedar Avenue to the East, Beach Avenue to the West, and 10th Street to the South. Cedar Avenue and Beach Avenue connect to State Route 528 to the South.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [help]

Yes, the area is served by Community Transit bus service. The nearest transit stop is .3 miles to the North at Grove Street and Cedar Avenue.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [help]

None.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [help]

No.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. [help]

No.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [help]

This project will not produce any more vehicular trips per day than its current use, we anticipate and average of 5 passenger vehicles per day.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No.

h. Proposed measures to reduce or control transportation impacts, if any: [help]

None.

15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [help]

No.

b. Proposed measures to reduce or control direct impacts on public services, if any. [help]

None.

16. Utilities

a. ***Bold/Italicize*** utilities currently available at the site: [help]

Electricity
natural gas
water
refuse service
telephone
sanitary sewer
septic system
other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [help]

None.

C. SIGNATURE [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Print signee: Kyle Woods name of

Position and Agency/Organization: City of Marysville, Project Engineer

Date Submitted: 10/02/19

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS [HELP]

(**IT IS NOT NECESSARY** to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

   Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

   Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

   Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

   Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

   Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

City of Marysville

1:36,112

0 0.3 0.6 1.2 mi

Arterials

Piped Stream

Streams

Stream

Tributary

Intermittent stream

Swale

Intermittent stream, not regulated

City limits

ARLINGTON

EVERETT

LAKE STEVENS

MARYSVILLE

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only land-ward of 0.0 National Geodetic Vertical Datum (NGVD). Users of this FIRM should be aware that coastal flood elevations may also be provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this community. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map is Universal Transverse Mercator (UTM) zone 10. The **horizontal datum** is NAD27, CLARKE1866 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. These flood elevations must be compared to structure and ground elevations referenced to the **same vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the Snohomish County Geographic Information Systems Department and from the City of Everett.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

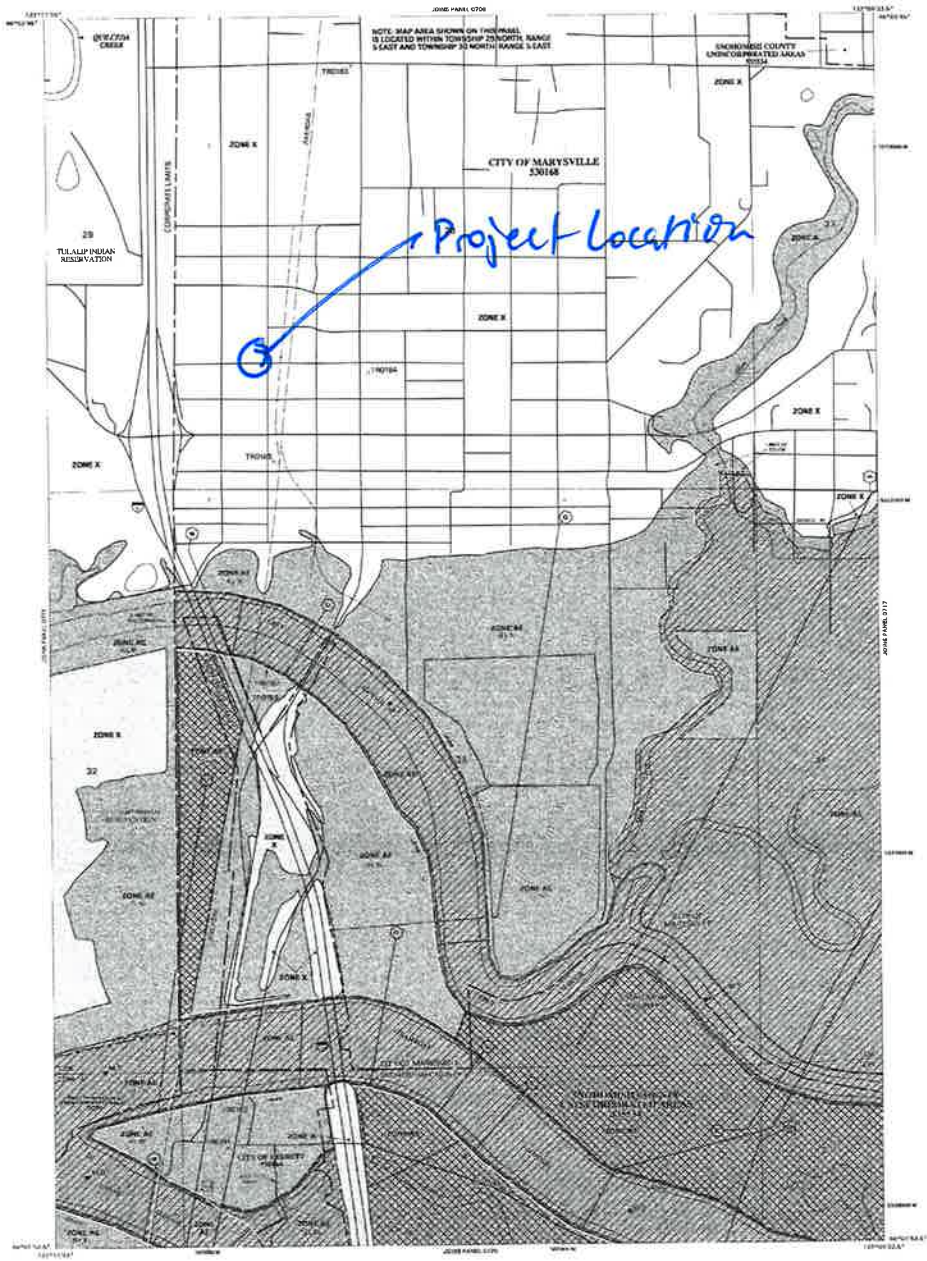
An accompanying Flood Insurance Study report, Letters of Map Revision or Letters of Map Amendment revising portions of this panel, and digital versions of this PANEL may be available. Contact the **FEMA Map Service Center** at the following phone numbers and Internet address for information on all related products available from FEMA:

Phone: 800 358 9616
FAX: 800 358 9620
www.fema.gov/msc

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA-MAP** (1 877 336 2627) or visit the FEMA website at www.fema.gov.

This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to better new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on this map.

LEGEND (continued)



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

ZONE A — No base flood elevations determined.

ZONE AE — Base flood elevations determined.

ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.

ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR — Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood event.

ZONE A99 — Area to be protected from 1% annual chance flood event by a federal flood protection system under construction; no base flood elevations determined.

ZONE V — Coastal flood zone with velocity hazard (wave action); no base flood elevations determined.

ZONE VE — Coastal flood zone with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are generally identified by one of the following labels:

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the National Geodetic Vertical Datum of 1929

- A — A — Cross Section Line
- 23 — 23 — Transect Line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1927 (NAD 27)
- 4276000m — 1000-meter Universal Transverse Mercator grid values, zone 10
- 600000 FT — 6000-foot grid ticks
- DX5510 — Bench mark (see explanation in Notes to Users) and/or elevation
- e M1.5 — River Mile

MAP REPOSITORY
Refer to Repository Listing on Index Map

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
NOVEMBER 8, 1999

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

September 16, 2005 - to increase base flood elevations, to add special flood hazard areas, to change special flood hazard areas, to add roads and road names, and to reflect updated topographic information.

For communities/areas participating in the National Flood Insurance Program, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-6620.

MAP SCALE 1" = 500'

PANEL 0716F

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
SNOHOMISH COUNTY, WASHINGTON
AND INCORPORATED AREAS

PANEL 715 OF 1575

SEE MAP INDEX FOR FIRM PANEL LAYOUT

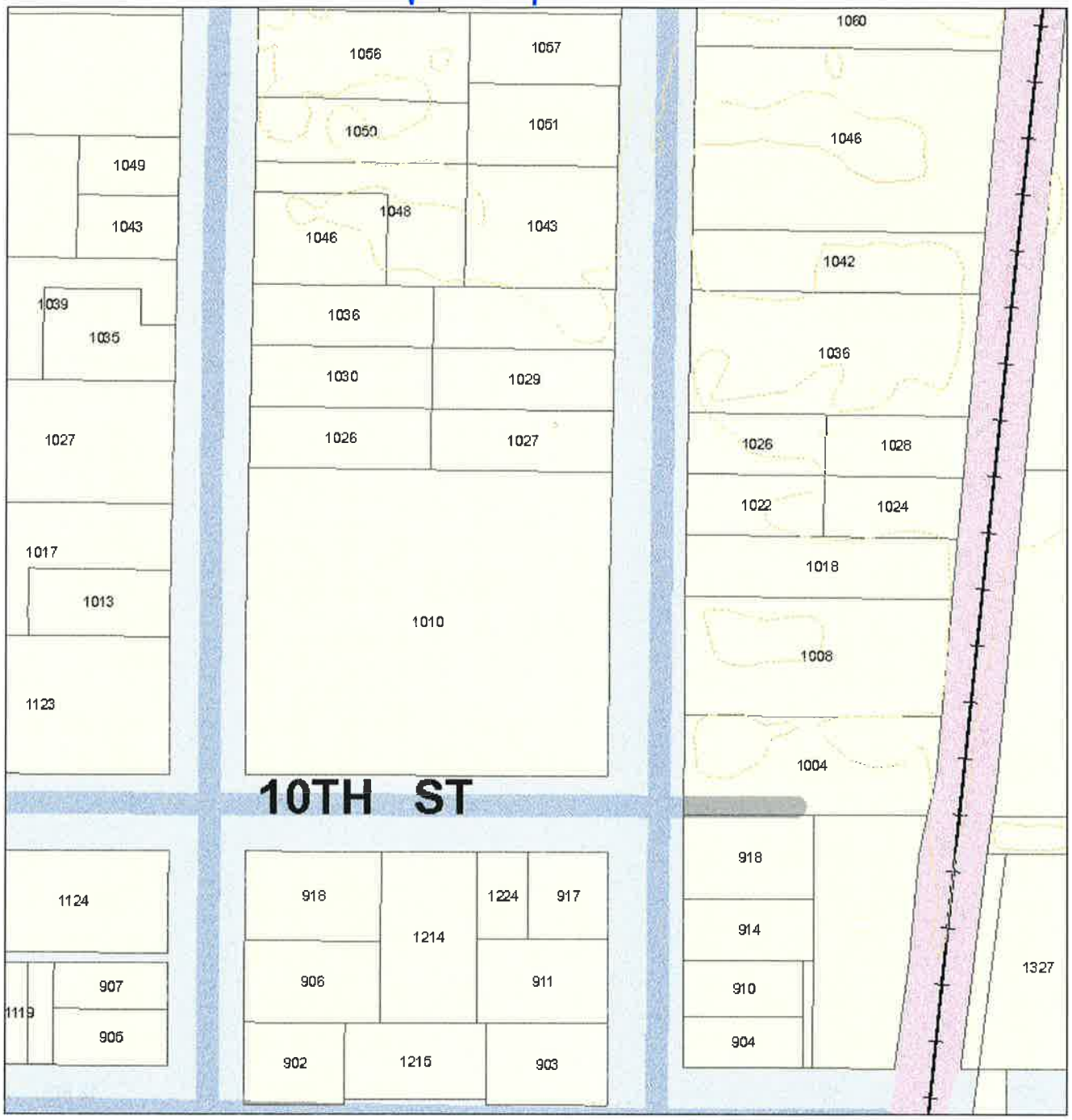
COMMUNITY	NUMBER	PANEL	SUFFIX
SNOHOMISH COUNTY (UNINCORPORATED AREAS)	530134	0716	F
MARYSVILLE, CITY OF	530168	0716	F
TULALIP INDIAN RESERVATION	530134	0716	F

MAP NUMBER
53061C0716F

MAP REVISED:
SEPTEMBER 16, 2005

Federal Emergency Management Agency

Topo Map (5' Contours)



City of Marysville

1:2,257

0 0.0175 0.035 0.07 mi

25' index contours
5' contours
Parcels
ROWs
MUNICIPALITY
PRIVATE
RAILROAD

SNOHOMISH COUNTY
STATE OF WASHINGTON

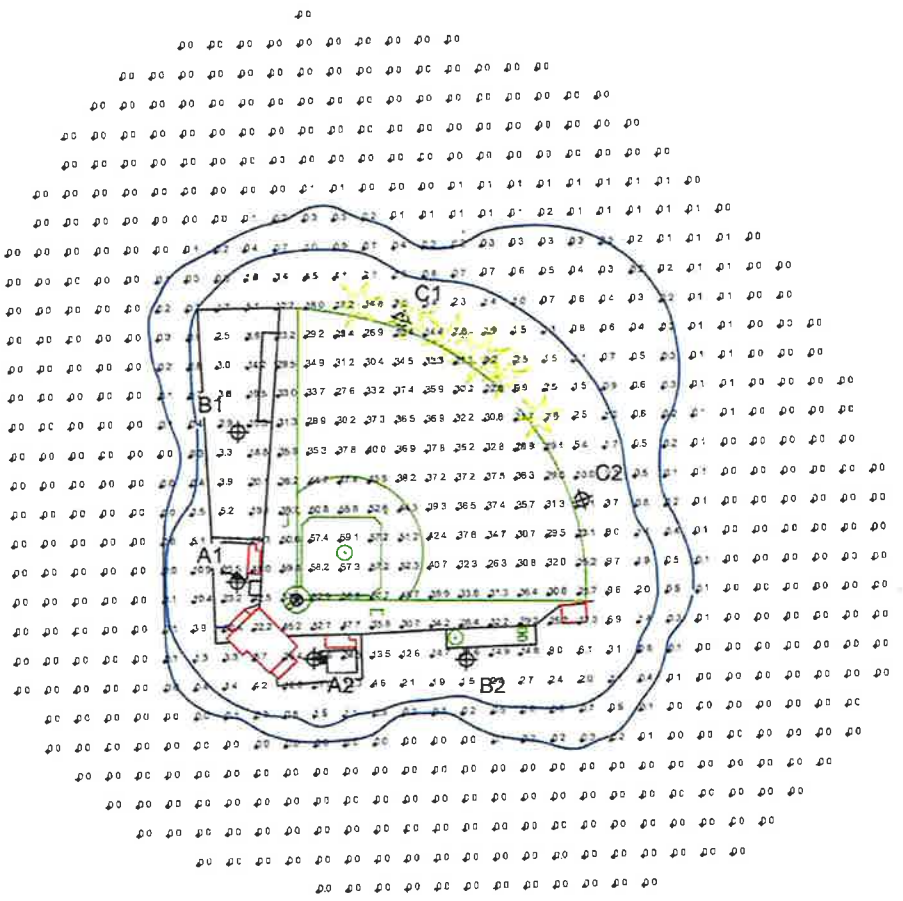
Streams
Stream
Tributary
Intermittent stream
Swale

Intermittent stream, not regulated
Piped Stream

City limits
ARLINGTON
EVERETT
LAKE STEVENS
MARYSVILLE

Cedar Field Softball

Maryville, WA



GRID SUMMARY	
Name:	**200' Spill**
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	**6.33**
Maximum:	63
Minimum:	0
No. of Points:	754
LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	89,600 / 46,500 / 65,600 / 52,000 lumens
No. of Luminaires:	**28**
Total Load:	20.2 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-900	>81,000	>81,000	>81,000
TLC-LED-400	>81,000	>81,000	>81,000
TLC-LED-600	>81,000	>81,000	>81,000
TLC-BT-575	>81,000	>81,000	>81,000

Reported per TM-21-11. See luminaire datasheet for details.

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 120

0' 120' 240'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊕

ENGINEERED DESIGN By: Shawn Moyer • File #198828-A • 24-Apr-19

musco Lighting

We Make It Happen.

NOTES: The A1/A2 poles are located in recognized glare zones do to site constraints.

Cedar Field Softball

Maryville, WA

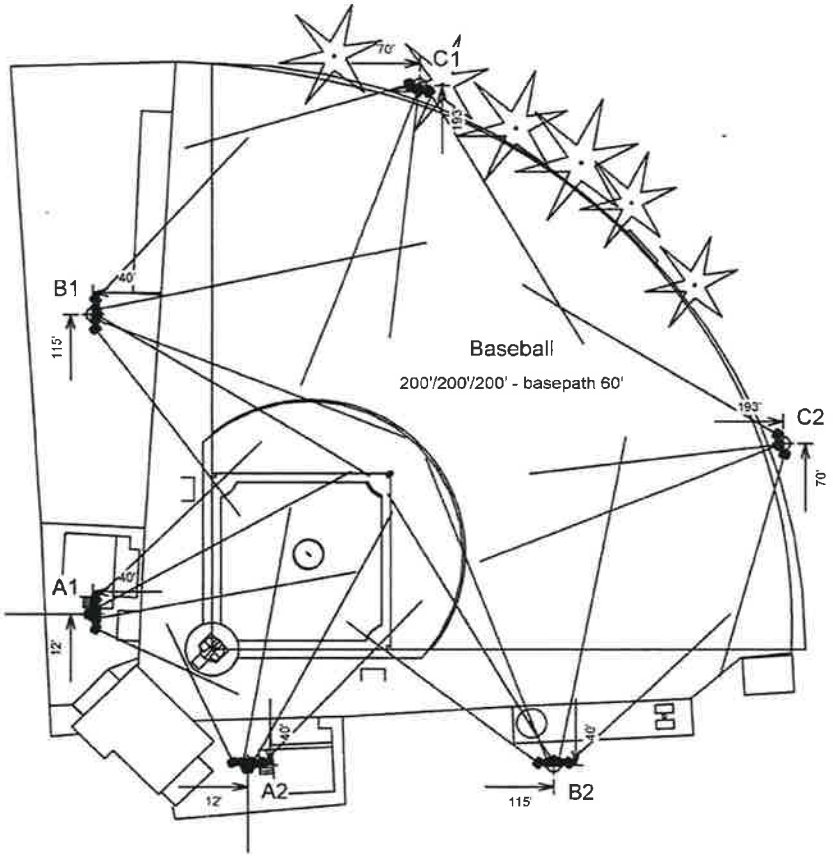
EQUIPMENT LAYOUT

INCLUDES:

- Baseball

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	60'	-	50'	TLC-LED-400	1
				60'	TLC-LED-600	4
2	B1-B2	60'	-	15.5'	TLC-BT-575	1
				60'	TLC-LED-900	4
2	C1-C2	60'	-	15.5'	TLC-BT-575	1
				60'	TLC-LED-900	3
6	TOTALS					28

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-600-A	3.4	3.2	3.0	2.6	2.0	1.9	1.5
TLC-LED-900-A	5.3	5.0	4.6	4.0	3.2	2.9	2.3
TLC-LED-400-A	2.3	2.2	2.0	1.7	1.4	1.3	1.0
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5

SCALE IN FEET 1 : 60

0' 60' 120'

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊘

ENGINEERED DESIGN By: Shawn Moyer • File #198828-A • 24-Apr-19

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Snohomish County Washington Online Government Information & Services

Property Account Summary

9/30/2019

Parcel Number	00585600200100	Property Address	1010 BEACH AVE , MARYSVILLE, WA 98270

General Information

Property Description	STEELES EDWARD 2ND ADD TO MARYSVILLE BLK 002 D-00 ALL LOTS 1-2 & S1/2 OF LOT 3
Property Category	Land and Improvements
Status	Active, Locally Assessed
Tax Code Area	00511

Property Characteristics

Use Code	681 Nursery, Primary & Secondary School
Unit of Measure	Acre(s)
Size (gross)	2.48

Related Properties

No Related Properties Found

Parties

Role	Percent	Name	Address
Taxpayer	100	CITY OF MARYSVILLE	1049 STATE AVE, MARYSVILLE, WA 98270-4234 United States
Owner	100	CITY OF MARYSVILLE	1049 STATE AVE, MARYSVILLE, WA 98270-4234 United States

Property Values

Value Type	Tax Year 2019	Tax Year 2018	Tax Year 2017	Tax Year 2016	Tax Year 2015
Taxable Value Regular					
Exemption Amount Regular	$1,658,700	$1,564,500	$1,497,500	$1,454,800	$1,413,200
Market Total	$1,658,700	$1,564,500	$1,497,500	$1,454,800	$1,413,200
Assessed Value	$1,658,700	$1,564,500	$1,497,500	$1,454,800	$1,413,200
Market Land	$1,143,600	$914,600	$914,600	$871,700	$845,900
Market Improvement	$515,100	$649,900	$582,900	$583,100	$567,300
Personal Property					

Active Exemptions

Government Property

Events

Effective Date	Entry Date-Time	Type	Remarks
10/21/2010	10/21/2010 16:23:00	The situs address has changed	by sasjra
02/03/2009	02/03/2009 08:20:00	Taxpayer Changed	Party/Property Relationship by strgss
01/14/2009		Owner Added	Property Transfer Filing No.: 316815 01/14/2009 by sasset

	02/02/2009 10:02:00		
01/14/2009	02/02/2009 10:02:00	Owner Terminated	Property Transfer Filing No.: 316815 01/14/2009 by sasset
01/14/2009	01/28/2009 16:24:00	Excise Processed	Property Transfer Filing No.: 316815, Statutory Warranty Deed 01/14/2009 by strrlw
11/03/2008	01/28/2009 16:19:00	Excise Processed	Property Transfer Filing No.: 316814, Quit Claim Deed 11/03/2008 by strrlw
03/28/2005	03/28/2005 13:39:00	Taxpayer Changed	Party/Property Relationship by strsas
10/03/2003	10/03/2003 10:47:00	Value Modification	Type: Value Change Due to Segregation/Merger, Status: Approved, Tax Year: 2004 by sasdbw
10/03/2003	10/03/2003 10:45:00	Property Characteristic Changed	2003 Surface Water Units changed from 0.00 to 2.48 by sasdbw
10/03/2003	10/03/2003 10:45:00	Property Characteristic Changed	2004 Surface Water Units changed from 0.00 to 2.48 by sasdbw
10/03/2003	10/03/2003 10:45:00	Property Characteristic Changed	2004 Size changed from 0.00 to 2.48 by sasdbw
10/03/2003	10/03/2003 10:42:00	Value Modification	Value Change Due to Segregation/Merger: C030557 by sasdbw
10/03/2003	10/03/2003 10:42:00	Seg/Merge Completed	Parent in Seg/Merge C030557, Effective: 01/01/2002 by sasdbw

Tax Balance

Installments Payable/Paid for Tax Year(Enter 4-digit Year, then Click-Here): 2019

Distribution of Current Taxes

District	Rate	Amount	Voted Amount	Non-Voted Amount
TOTAL				

Pending Property Values

Pending Tax Year	Market Land Value	Market Improvement Value	Market Total Value	Current Use Land Value	Current Use Improvement	Current Use Total Value
2020	$1,139,100.00	$618,900.00	$1,758,000.00	$0.00	$0.00	$0.00

Levy Rate History

Tax Year	Total Levy Rate
2018	11.563249
2017	11.309258
2016	11.774511

Real Property Structures

Description	Type	Year Built	More Information
10 TH STREET SCHOOL	Commercial	1958	View Detailed Structure Information

Receipts

Date	Receipt No.	Amount Tendered to Parcel	Receipt Total
No Receipts Found			

Sales History

Sale Date	Entry Date	Recording Date	Recording Number	Sale Amount	Excise Number	Deed Type	Transfer Type	Grantor (Seller)	Grantee (Buyer)	Other Parcels
11/03/2008	01/28/2009	11/03/2008		$0.00	316814	QC	S	YMCA OF SNOHOMISH COUNTY	MARYSVILLE SCHOOL DISTRICT #25	No
01/14/2009	01/28/2009	01/14/2009		$1,775,000.00	316815	QC	S			No

ArcGIS Web Map 1965 Ortho

1:1,600

0 65 130 260 Feet

Railroad

Streets

CITY OF MARYSVILLE

OTHER

PRIVATE

STATE OF WASHINGTON

Streams

Lakes

High : 255

Low : 0

CULTURAL RESOURCES REPORT COVER SHEET

DAHP Project Number: 2019-09-06801

Author: Kelly R. Bush, MA and Caspian P. Hester, BA

Title of Report: Archaeological Investigation Report: Cedar Field Renovation Project, Marysville, Washington

Date of Report: 9/27/19

County: Snohomish Section: 28 Township: 30N Range: 5E

Quad: Marysville Acres: 1.75

PDF of report submitted (REQUIRED) ☒ Yes

Historic Property Inventory Forms to be Approved Online? ☐ Yes ☒ No

Archaeological Site(s)/Isolate(s) Found or Amended? ☐ Yes ☒ No

TCP(s) found? ☐ Yes ☒ No

Replace a draft? ☐ Yes ☒ No

Satisfy a DAHP Archaeological Excavation Permit requirement? ☐ Yes # ☒ No

Were Human Remains Found? ☐ Yes DAHP Case # ☒ No

DAHP Archaeological Site #:

_____
_____
_____
_____
_____
_____
_____
_____

ARCHAEOLOGICAL INVESTIGATION REPORT: CEDAR FIELD RENOVATION PROJECT, MARYSVILLE, WASHINGTON

Prepared for: City of Marysville Parks, Culture and Recreation Department

September 27, 2019

Prepared by:

ERCI

1229 Cleveland Avenue, Mount Vernon, Washington 98273 • Tel 360-826-4930 • Fax 360-826-4830 • www.equinoxerci.com

CREDITS AND ACKNOWLEDGMENTS

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LEAD AGENCY ..... Washington State Recreation and Conservation Office

LEAD AGENCY CONTACT ..... Dan Haws, RCO Project Manager

REPORT AUTHORS ..... Kelly R. Bush, MA and Caspian P. Hester, BA

GRAPHICS ..... Jacob Wilmoth, BA

FIELD RESEARCHERS ..... Sarah Johnson Humphries, MA, Caspian Hester,

..... and Paige Hawthorne, MA

PROJECT CONTACT ..... Kyle Woods, Marysville Parks, Culture and Recreation Department

TRIBAL CONTACTS ..... Michael Evans, Snohomish Tribe

..... Kerry Lyste, Stillaguamish Tribe

..... Richard Young, Tulalip Tribes

DAHP CONTACTS ..... Rob Whitlam PhD

Equinox Research and Consulting International Inc. (ERCI) would like to thank the City of Marysville Parks, Culture and Recreation Department for retaining us for this investigation and for their commitment to the process and archaeological resources.

We wish to thank the Snohomish Tribe, the Stillaguamish Tribe of Indians and the Tulalip Tribes for their regular review and feedback of our reports and project.

The opinions and recommendations in this report are those of ERCI alone and do not necessarily reflect those held by any of the organizations or individuals mentioned above. Any errors or omissions are ERCI's responsibility.

MANAGEMENT SUMMARY

Project	Marysville Parks and Rec- Cedar Field Renovation
County	Snohomish
TRS	Township 30 N, Range 5 E, Section 28
Quad	Marysville
Parcel ID	00585600200100
Address	1001 Cedar Ave, Marysville, WA 98270
Property Owner	City of Marysville
Area	~1.75 acres
Lat/Long	48° 03′ 27″ N/ 122° 10′ 52″ W
UTM Zone	Zone 10 561014 Easting 5323037 Northing
Elevation	14-16′
Nearest Water Body	Puget Sound
Nearest Arch Site	SN00038 – ~0.37 mile
Soils	Ragnar fine sandy loam, 0 to 8 percent slopes
Geology	Continental glacial outwash, Marine, Sand, Fraser-age. Mostly Vashon stade in Western WA; Unnamed in Eastern WA.

In August 2019 Jim Ballew, Director of Parks, Culture and Recreation for the City of Marysville contacted Kelly R. Bush of Equinox Research and Consulting International Inc. (ERCI) to carry out a cultural resources investigation for the Cedar Field Renovation Project, on 1.75 acres at 1001 Cedar Ave, in the City of Marysville, Snohomish County Washington (Snohomish County Assessor Parcel 00585600200100). The project includes installation of a new drainage system, field turf, fencing, and lighting.

Washington State Recreation and Conservation Office (RCO) is the lead agency on this project.

On September 5, 2019 ERCI Secretary of the Interior-qualified archaeologists Sarah Johnson Humphries, MA, and Paige Hawthorne, MA along with ERCI archaeological technician Caspian Hester, BA, carried out an archaeological investigation of the project area.

This report documents ERCI's background research and archaeological survey for the project area, which entailed a pedestrian survey and excavation of 12 shovel tests.

No Protected Cultural Resources or Historic Properties were identified during the archaeological investigation within the Parcel.

The management recommendations that we are now providing are based on this investigation

1. The proposed project proceed as planned, following an unanticipated discovery protocol (UDP) training given to all construction personnel by a professional archaeologist. A copy of the Unanticipated Discoveries Protocol (UDP) to be kept on site at all times.
2. In the event that any ground-disturbing activities or other project activities related to this development or in any future development uncover protected archaeological objects or sediments (e.g., old bottles or cans, charcoal, bones, shell, stone, horn or antler tools or weapons), all work in the immediate vicinity should stop, the area should be secured, and any equipment moved to a safe distance away from the location. The on-site superintendent should then follow the steps specified in the UDP.

3. In the event that any ground-disturbing activities or other project activities related to this development or in any future development uncover human remains, all work in the immediate vicinity should stop, the area should be secured, and any equipment moved to a safe distance away from the location. The on-site superintendent should then follow the steps specified in the UDP.

CONTENTS

FIGURES

TABLES

1.0 INTRODUCTION

In August 2019 the Jim Ballew, Director of Parks, Culture and Recreation for the City of Marysville contacted Kelly R. Bush of Equinox Research and Consulting International Inc. (ERCI) to carry out a cultural resources investigation for the City of Marysville Parks, Culture and Recreation Cedar Field Renovation Project (the Project), in the city of Marysville, Snohomish County, Washington (Figure 1). Marysville Parks, Culture, and Recreation has received Washington State Recreation and Conservation Office funds. The Project includes installation of a new drainage system, field turf, fencing and lighting.

Washington State Recreation and Conservation Office (RCO) is the lead agency on this project. This report documents ERCI's background research and archaeological survey for the project area.

Figure 1: Regional map showing approximate Project location.

Figure 2: USGS Marysville 7.5-minute quadrangle with or project area outlined in red.

Figure 3: Snohomish County Assessor's map showing project area outlined in red.

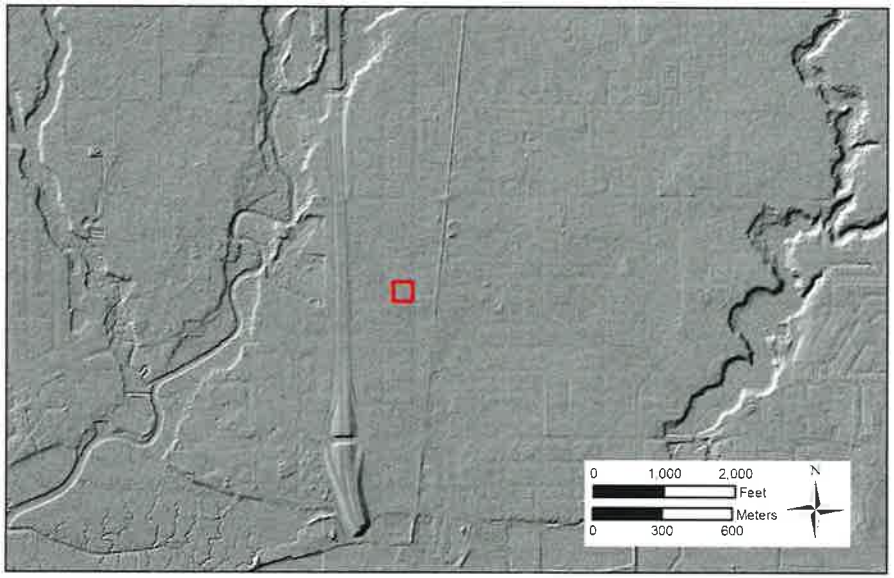

Figure 4: Lidar map showing project area outlined in red (courtesy of Puget Sound Lidar Consortium).

Figure 5: Aerial photograph showing project area outlined in red.

2.0 REGULATORY FRAMEWORK

The Project is funded in part by Washington State Recreation and Conservation Office (RCO). As a state agency RCO is governed by State of Washington Executive Order 05-05 Governor's executive order 05-05 was signed in November of 2005 and recognized the rich and diverse cultural heritage of Washington State. This order requires that state agencies consult with the Department of Archaeology and Historic Preservation (DAHP) and affected Tribes into the planning process for any capital construction projects or land acquisition projects for the purpose of capital construction. This executive order recognizes DAHP as the environmental agency with special expertise in cultural resources (WAC 197-11.920). Consultation is the responsibility of the State agency with the capitol construction project and requires a face to face meeting with affected Tribes (EO 05-05 1b). Consultation with DAHP can be informal or formal and may require background research and/or field work to identify and evaluate archaeological sites or Historic Properties for eligibility to the State or Federal Register. If any of these resources are identified, reasonable steps must be taken to avoid, minimize or mitigate effects to these resources.

The goal of this legislation is to help state agencies lead by example and to provide some consistency in the planning processes between the federal and state regulations. To help streamline review time, and to provide a framework for the resolution of concerns by affected Tribes on any state funded or permitted project or projects on state lands.

RCO is the lead agency for the Project and is responsible for consultation and distribution of this report to the appropriate consulting and interested parties.

3.0 TRIBAL CONSULTATION

Snohomish Tribe, the Stillaguamish Tribe of Indians and the Tulalip Tribes consider the project area within their traditional use area. The Tribes will require detailed development descriptions to adequately review the project. As Lead agency, RCO is responsible for carrying out consultation regarding this project including providing our report to the affected Tribes. Tribal representatives are the only people qualified to determine if Traditional Cultural Properties exist within the project area, whether they will be affected by the undertaking and how any suggested management strategies might work. In discussions between Kelly Bush and Tribal representatives, it is clear that the Tribes consider this area to be culturally and historically significant, and are concerned about the effects of development.

4.0 BACKGROUND

Any archaeological undertaking requires knowledge of the physical surroundings (and their evolution) and the duration and kind of human activity in any given area. From this knowledge, archaeologists are able to develop the current best method to carry out field investigations. For example, environmental factors play an important role in the location and preservation of archaeological sites. Sediments and soils are of particular interest to cultural resource managers because they can be used for reconstructing past landscapes and landscape evolution, in estimating the age of surfaces and depositional episodes, and providing physical and chemical indicators of human occupation (Holliday 1992).

4.1 Physical Environment

Cedar Field lies in the watershed between the Quil Ceda River and Allen Creek north of the Ebey Slough. The more localized vicinity of the project area is in a highly developed area of the City of Marysville. The project area is bounded on the east by Cedar Ave and on the south by 10th St. To the

north a gravel parking area is sandwiched between the project area and a residential property. To the west is a Boys and Girls Club where the Marysville High School once stood.

Previous disturbance to the Parcel includes

- Logging
- Clearing and construction of buildings
- Construction of baseball field

Geology

The geology of a region is important to archaeological investigations because it lays the foundation for landforms and soil development. Like the foundation of a house it determines the shape and subsequently the human use of the landscape above it. How water and sediment move across the surface of the earth is in a great part determined by the geology of a region. This, in turn, affects how people use the land. Slope, available water, exposed bedrock, the success of vegetation are all influenced by what is under the soil. We use the geology of the project area and the surrounding landscape to help assess the likelihood of encountering archaeological objects and features based on how the landscape would have influenced human activities in the past.

For most of the last 2.6 million years—the Pleistocene Epoch—the Earth underwent drastic shifts in global temperature caused by periodic variations in the Earth's orbital eccentricity, axial tilt and precession. The result has been 11 'ice ages,' during which almost 30 percent of the world's land surface was covered by sheets of ice as much as 3 kilometers (km) thick (Porter and Swanson 1998). Archaeological evidence supports an inference that the first humans entered the Americas as the most recent deglaciation progressed, and that by about 10,500 years ago, humans had populated North and South America from the Arctic Ocean to Tierra del Fuego.

As the last cold stage intensified, high-altitude valley glaciers grew in depth and extent, and through a process of coalescence formed the Cordilleran Ice Sheet, centered over the Pacific Northwest's mountain ranges: Coast Mountains, Cascade Range, Olympic Mountains, Columbia Mountains and Rocky Mountains. Further east in North America, ice simply accumulated in place, creating the Laurentide ice sheet, centered over Hudson Bay. During the cold periods ('glacials' or 'glaciations') so much of the world's water was stored as ice that global sea level dropped by as much as 150 meters (almost 500 feet). At the same time, beneath the ice Earth's crust was depressed by the enormous weight. Thus, during the last glaciation, much of what is now the coastline was below present-day sea level. The most recent glacial period—the Fraser Glaciation—began about 25,000 years ago and ended by about 10,000. In that time the ice advanced and retreated twice in what is now the area of Puget Sound, first during the Everson Creek Stade and most recently in the Vashon Stade (Easterbrook 1986). At the height of the Vashon Stade—about 17,500 years ago—the project area was under as much as 1.2 km of glacial ice (Porter and Swanson 1998:206). By about 16,500 years ago the ice was retreating—exposing the Puget Lowland and Cascade Range—and glacial meltwater carried rivers of sediment onto the lowlands, mantling the area with deep deposits that subsequent stream activity covered with alluvium in river valleys and built out deltas in Puget Sound.

As the ice sheets finally retreated the land rebounded and sea level rose. The precise timing of sea-level stabilization (eustacy) and the rate of post-glacial rebound (isostacy) varied from place to place due to a complex interplay between the underlying geology and the surficial geological processes that predominated at any given location. In the Pacific Northwest, most of the coastline has been within a few meters of present-day sea level for about the last 6,000 years (Anundsen et al. 1994), while in the northernmost parts of the Northern Hemisphere the land is still rebounding (Thorson 1980, 1989). Yet, in the Hakai Passage region of the central British Columbia coast, due to the particulars of geology and

movement of the receding ice sheet, sea level has been relatively stable for most of the past 15,000 years (McLaren et al. 2014).

On the Salish Sea the picture is equally complex. Due to the gradual south-to-north progression of deglaciation and the relatively rapid rise of sea level in the early postglacial period, sea level in the southern Puget Sound was about 40 meters below its present elevation by 8,000 years ago (Thorson 1989). By contrast, in the northern Puget Sound at the same time, sea level was only about 10 m below its present elevation (Clague 1983; Easterbrook 1963; Kelsey et al. 2004; Thorson 1989).

Across the globe, sea level has been rising gradually since about 8,000 years ago. By about 5,000 years ago, sea level across Puget Sound was about 2 to 3 m below its present level; it reached its present-day elevation only in the last 1,500 years or so (Kelsey et al. 2004; Sherrod et al. 2000). For all these reasons, even though people have been in the region for 10,000 or more years, evidence for human occupation near the present Puget Sound coastline dates to the time since sea level stabilized at or near its present elevation. In general, evidence of earlier coastal occupation has been inundated by the encroaching sea.

Surface sediments in the project area are represented in Figure 6 as Qvrm: Marysville Sand Member, "Mostly well-drained, stratified to massive outwash sand,.. fine gravel, and some beds of silt and clay" (Minard 1985).

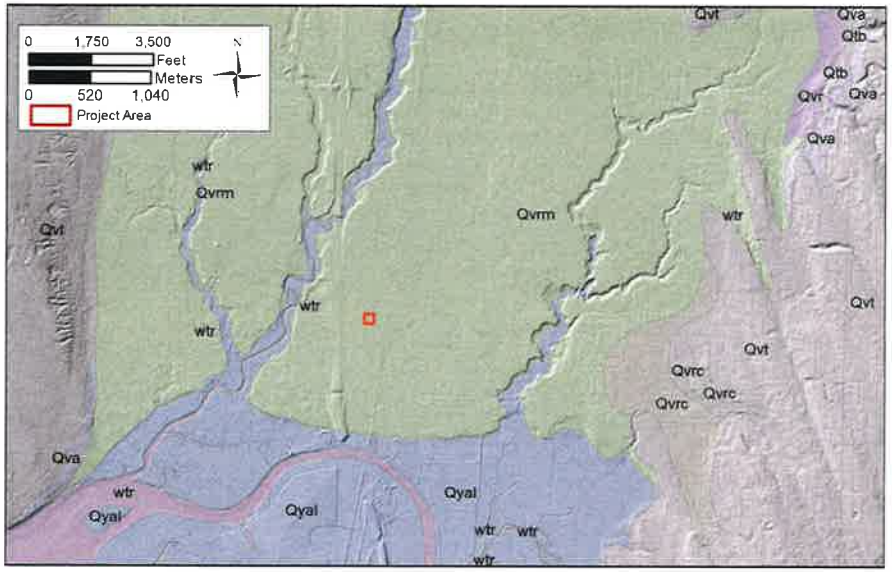

Figure 6: Map of surface geology with project area indicated in red (Washington Division of Geology and Earth Resources 2016).

Soils Geologists define a soil as the effect of weathering on naturally or culturally deposited sediments, which creates discernible 'horizons' within a vertical soil profile. A soil typically comprises an A horizon that contains decomposed organic material mixed with the upper portion of the so-called parent material—usually naturally occurring deposits that are exposed to weathering. The A horizon lies above

one or more horizons that develop as a result of water percolating downward, carrying chemicals leached from the A and lower horizons. Soils vary from place to place across the landscape, in keeping with the type of sediments that form the parent material and the local environmental conditions. The horizons of different soil types display color variations according to the local soil chemistry. Color, coupled with the nature of the parent material are what enable soil scientists and archaeologists to distinguish one soil type from another, and, most importantly, to tell a naturally developed soil from a stratigraphic profile that results from cultural processes.

There is one soil types in the project area: Ragnar fine sandy loam (Soil Survey Staff 2019)

Ragnar fine sandy loam is distributed on outwash plains, in glacial outwash. It is well drained, with a depth to the water table of more than 80 inches. The surface does not flood or pond. A typical profile includes: 0 to 2 inches, ashy fine sandy loam; 2 to 24 inches, ashy sandy loam; 24 to 60 inches, loamy sand.

A typical profile consists of:

> Oe--0 to 1 inch; black (10YR 2/1) partially decomposed leaves and twigs; many roots; abrupt smooth boundary. (1 to 2 inches thick)
>
> A--1 to 5 inches; very dark grayish brown (10YR 3/2) and very dark gray (10YR 3/1) fine sandy loam, grayish brown (10YR 5/2) dry; massive; slightly hard, very friable, nonsticky, nonplastic; many roots; many very fine pores; NaF pH 10.5; moderately acid (pH 6.0); abrupt wavy boundary. (3 to 9 inches thick)
>
> Bs--5 to 18 inches; dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) fine sandy loam, brown (10YR 5/3) dry; massive; slightly hard, very friable, nonsticky, nonplastic; many roots; many very fine pores; NaF pH 11.5; moderately acid (pH 6.0); clear smooth boundary. (5 to 13 inches thick)
>
> 2BC--18 to 28 inches; yellowish brown (10YR 5/4) loamy fine sand, brown (10YR 5/3) dry; massive; slightly hard, very friable, nonsticky, nonplastic; common roots; many very fine pores; NaF pH 10.5; slightly acid (pH 6.2); clear smooth boundary. (6 to 12 inches thick)
>
> 2C--28 to 41 inches; olive brown (2.5Y 4/4) loamy sand, yellowish brown (10YR 5/3) dry; massive; loose; few roots; many very fine pores; NaF pH 10.0; slightly acid (pH 6.2).
>
> TYPE LOCATION: King County, Washington; 330 feet north, 230 feet east of center of section 3, T.21N., R.5E... [National Cooperative Soil Survey 2000].

Climate and Biota

Prior to the influx of European settlers, the area in Central Puget Sound likely supported a mixed prairie/forest vegetation of Western Washington's climax hemlock (*Tsuga heterophylla*)/cedar (*Thuja plicata*) forests (Franklin and Dyrness 1988; Heusser 1983; Pojar and Mackinnon 1994; Turner 1995).

Warm, dry summers and mild, wet winters prevail in this biogeoclimatic zone. The area likely supported a wide variety of large and small mammals, birds, reptiles, and amphibians common to river deltas and foothill transition zones. Bear, cougar, deer and elk are the indigenous large mammals, with small mammals including otter, beaver, fox, porcupine, marten, snowshoe hare, bobcat, chipmunk and

squirrel. Birds found in the project area consist of a wide variety of migratory and permanent waterfowl, shorebirds, raptors and songbirds. Chum and coho salmon currently spawn in Allen Creek to the east (Carrol 1999).

In the time before contact, land mammals and plant resources would have been abundant during all seasons.

4.2 Cultural Environment

The project area lies in a region that Native Americans had inhabited for at least 14,000 years by the time of contact with Europeans, when Salishan-speaking people occupied vast tracts in the Columbia and Fraser River basins, the inland waters of the Salish Sea, the Puget Lowland, the Cascade Range, and parts of the Pacific Coast between the Columbia River and the Olympic Peninsula. European explorers first entered the region in the late sixteenth century, with Euro-American settlement beginning in the early nineteenth century and increasing after the Donation Land Claim Act of 1850 and Homestead Act of 1862. Here we present a synopsis of the archaeological cultures, traditional Salish lifeways, and pertinent details of the time since non–Native American immigration began.

Archaeological cultures

Salish Ethnography and Ethnohistory

A detailed description of the Central Puget Sound's traditional Salish cultures is beyond the scope of this report. Instead, we present a broad overview of their traditional lifeways, including what is known of the precontact cultures, using knowledge gained from ethnography, ethnohistory, and the historic record. For in-depth descriptions of traditional Salish culture, readers are directed to the following references: Adamson (1969), AFSC (1970), Allen (1976), Amoss (1977a, 1977b, 1978, 1981), Ballard (1929), Barnett (1938, 1955), Belcher (1986), Bennett (1972), Bierwert (1990, 1993, 1999), Boyd (1994, 1999), Bruseth (1926), Curtis (1913), Dewhirst (1976), Eells and Castile (1985), Elmendorf (1971, 1974, 1993), Guilmet et al. (1991), Gunther (1928, 1945), Haeberlin (1924), Haeberlin and Gunther (1930), (1998), Harris (1994), Howay (1918), Jorgensen (1969), Kew (1972, 1990), Lane and Lane (1977), Mansfield (1993), B. Miller (1993, 1995, 1997, 1998, 2001), Miller and Boxberger (1994), Mooney (1976), Moss (1986), Riley (1974 [1953]), M. Smith (1941, 1956), Spier (1935, 1936), Stewart (1973, 1977, 1979, 1984, 1996), Suttles (1957, 1958, 1960, 1974 [1951], 1987, 1990a, b), Suttles and Lane (1990), Taylor (1953, 1960, 1984), Tollefson (1989), et al. (1996), Tweddell (1974 [1953]), United States (1859), United States Court of Claims (1933), Waterman (1920) and Waterman et al. (2001).

The Central Puget Sound shoreline has been home to people for millennia. Ethnographic accounts, the historic record and the oral histories of the people who lived there have all provided a rich story of the lives and deaths of the area's original inhabitants.

Coast Salish social life

Social life began in the longhouse, a large, red cedar, post and beam structure clad in broad planks, in which up to twenty closely related families dwelt and cooperated economically. Frequently, longhouses were 100- to 200-foot-long structures, with gable or shed roofs. One or more longhouses comprised a village, usually situated advantageously with respect to the area's resources—often at the river mouth or on the main stem of the river at the mouth of a tributary stream. Each longhouse was led by the head of one of its resident, closely related, families.

Within each village one of the longhouses would have had more social influence than the others. Villages, too, were often ranked, and quite often the larger villages wielded more influence. Most decisions that affected the village were undertaken within a small group of those representing individual longhouses; those decisions affecting the tribe as a whole would be made amongst the leaders of individual villages and their constituents. Within and between villages, power and prestige were asserted and maintained by the Potlatch, a ceremonial feast held in celebration of important occasions, in which gifts were given by those who organized the celebration. In so doing, social and economic debts were created, reinforcing the social relationship between the giver and the recipient.

There are two traditional place names that Waterman (1920) lists near the project area (Figure 7; Table 1); the project area is roughly between the two. The first is *ᵀʷqwota'itsdɛ̄b*, or Sturgeon Place on Quilceda Creek (#11 on Figure 7); the second is *Kw ɬ lsi'da*, the Lushootseed name for Ebey Slough (#12 on Figure 7).

Figure 7 uses a Lushootseed phonetic alphabet where available, following Waterman et al. (2001); in all other cases Waterman's original phonetic alphabet is used. Note also that the numbers in Figure 7 denote the general area of named places, to protect knowledge of their actual locations.

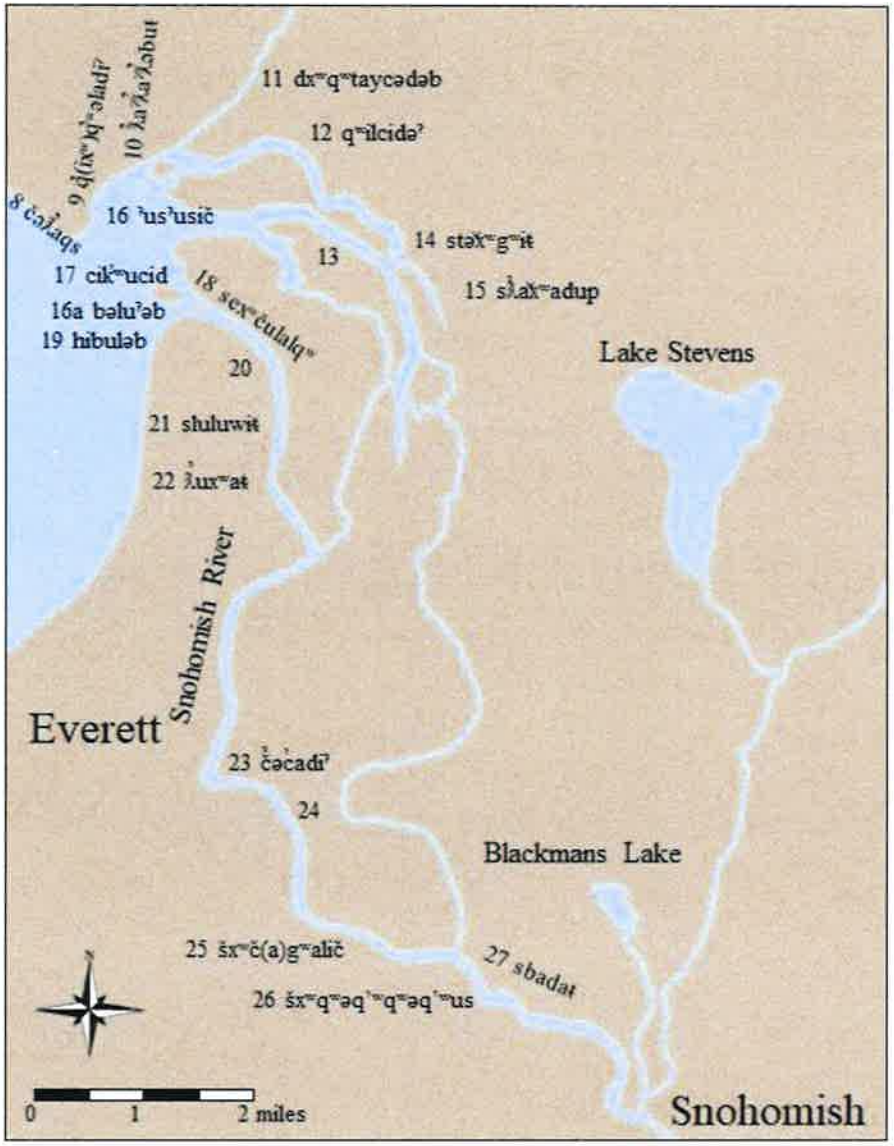

Figure 7: Map showing Waterman's place names (after Waterman 1920).

Table 1: Place names and translations from Waterman (1920). Map numbers refer to Figure 7.

Waterman Place Name	Map	Translation	Description
q!kwa'ladi	9	The inner part of the bay; up river flap	The bight in the coastline just east of Priest Point.
TlatLEbtLabu'L	10	Place of many little cedar canoe mats	A place near the shore east of reference #9.
^{Tux}qwota'itsdEb	11	Sturgeon place	Quilceda Creek.
Kw l lsi'da	12	Emptying through an elbow	Ebey's Slough, one of several large waterways cutting across the delta of the Snohomish River.
La'La	13	Dragging something through, touching the sides of the passage	Steamboat Slough.
stE'x^{u}gw l L	14	Plowing through with a canoe	A narrow isthmus that is very marshy, separating Ebey's Slough from Steamboat Slough.
StL!a'hadup	15	Bushy	Union Slough, narrow waterway lying closer to the harbor than #14.
Os^{3}a'^{3}s l tc	16	Chasing a fish here and there	An estuary where Steamboat Slough and Union Sloughs come together.
PE'ls l b	16a	Boiling	A place at the mouth of the main channel of the river.
Ctcqo'tsid	17	That which chokes up the mouth of something	A small island lying on the north side of the river mouth.
SExwtculalkw	18	None given	A sharp point of land running out toward the island in reference #17.
Hibu'l^{3}ub	19	Place where water boils out of the ground	A village site just at the south side of the mouth of the Snohomish River.
SEqwsu'^{3}ub	20	Gathering something together in a string	A small promontory with a slough behind it, running almost parallel to the shore.
Slu'luw l L	21	Little perforation for a canoe	A narrow channel passing behind an island.
tL'o'hwaL	22	A cold spring	A spot on the river bank opposite the town of Everett.
Tcts!adi	23	Something sharp sticking out	A promontory opposite the town of Lowell, produced by a sharp turn in the river.
HwEq^{w}qwl Lqed	24	Head of something moving about	A place above Lowell where the slough strikes off from the river.
Ctcgwa'l l tc	25	The outer edge of something	A high land along a margin of the river.
cqwEqw!Eq!-os	26	Two white cliffs	A place where the river makes an S-shaped bend, producing two sharp headlands.
Sba':daL	27	Eddy	A place in the river near the town of Snohomish.

Economy

Coast Salish economies are often characterized by their relationship to the sea and the abundant and predictable resources it offers in addition to the plentiful salmon. Many Coast Salish resources were seasonal. This applied to salmon as much as to the berries and bulbs that formed an important part of the diet. For this reason, economic life most of the year meant leaving the permanent winter village and the longhouse and setting up seasonal camps where local resources were exploited. This often entailed constructing temporary shelters of wood and waterproof mats similar to those shown in Figure 8. Mat houses like this one illustrated would have been a common structure on the prairies and riverbanks inland from the Sound.

Terrestrial resources were acquired by collecting and hunting. Using digging sticks, they collected bulbs of camas, wild potato, bracken and wood fern, cattail, wild carrot and others. Some plant products were preserved and stored for use during the winter. Fruits gathered were salmonberry, huckleberry, wild blackberry, raspberry, salal, serviceberry, and wild strawberry, as well as acorn and hazelnut (Haeberlin and Gunther 1930:20–21). They hunted elk and deer, beaver, bobcat, bear, marmot, cougar, as well as ducks and grouse. Seal and other sea mammals were hunted from canoes. As with the important salmon, all meat beyond immediate need was cured and stored for winter consumption. Trade back and forth for shellfish and other seafood for camas or dried meat was common (Haeberlin and Gunther 1930:20).

Material culture

In addition to the archaeological collections and oral histories much of what we know of traditional Coast Salish material culture derives from ethnographic collections residing in museums around the world, from the observations of ethnographers and historians, and photographs taken in the nineteenth and early twentieth centuries (e.g., Curtis 1913).

Figure 8: Example of a seasonal house, "Mat House—Skokomish" (1912) by Curtis (Northwestern University Library 2003b).

Coast Salish groups relied heavily on plants to create functional, decorative and ceremonial objects. For example, the red cedar tree provided wood for longhouses, canoes and storage containers, as well as bark that when shredded could be woven to make clothing, capes and head coverings. Cedar and spruce root were used along with other fiber to make baskets similar to those shown in Figure 9 for use when foraging or cooking, some so tightly woven that they were waterproof. Local and exotic stone was chipped or ground to fashion knives, spear, dart and arrow tips, mauls, wedges, adzes and chisels for woodworking, and ear and lip ornaments. Fishing barbs, combs, pins and many other items were fashioned from animal bone, antler, teeth and shell.

Figure 9: Examples of the kind of baskets made by Coast Salish people, "Puget Sound Baskets" (1912) by Edward S. Curtis (Northwestern University Library 2003c).

Dog wool was spun and woven on a loom to produce blankets similar to the one shown in Figure 10. Although the loom is from Vancouver Island, such looms would have been common in the project area. Some clothing was made from bear and buckskin. Among the many uses for marine shell, clam shell disc beads—"shell money"—were used for trade (Haeberlin and Gunther 1930:29). From an archaeological perspective only special depositional circumstances could be expected to preserve most of these organic artifacts.

Summary

This overview has barely sketched traditional lifeways. The Salish People thrived for millennia, and developed a rich and complex culture within an environment that supported a large population prior to European contact and the devastation of disease and political oppression. Despite these hardships the peoples of the region have resiliency, and continue to fight for renewed political and economic power, at the same time working to preserve and maintain traditional cultural knowledge and beliefs.

Figure 10: Example of the kind of weaving done by Coast Salish people, "Goat-hair Blanket—Cowichan" (1912) by Curtis (Northwestern University Library 2003a).

Exploration and Immigration

The first documented exploration of the Pacific Northwest was a Spanish expedition in 1592, led by Greek-born Apostolus Valerianos, more commonly known as Juan de Fuca, after whom the entrance to the Salish Sea is named. Between 47° and 48° north latitude—after entering a "broad Inlet of the Sea" de Fuca traveled for "twentie dayes ... passed divers Ilands ... went on Land in divers places, and ... saw some people on Land, clad in Beasts skins" (Purchas 1906 [1625]:416).

Some of the earliest English-language records of this region come from George Vancouver's exploration of the Salish Sea. On June 4, 1792, he went ashore in the vicinity of Tulalip, near today's Everett, Washington, and claimed for King George III the coast south to 39° 20' N, which had been his first landfall. Vancouver was convinced of the historical justification of his claim and his maps all show British Territory from about 39° north latitude northward (Hayes 1999:85). The southern portion of the Salish Sea is named after Vancouver's lieutenant, Peter Puget.

Beginning in the late eighteenth century, introduced diseases took an enormous toll on Northwest Coast Native American populations. Estimates of mortality range from 30 to 90 percent, with the higher estimate being the more likely result of several successive catastrophic episodes of, especially, smallpox (Boyd 1994, 1998; Campbell 1991).

The Hudson's Bay Company

The first Europeans to stay for any length of time in the Puget Sound area were traders, trappers and explorers associated with the Hudson's Bay Company (HBC). From the 1820s through to the 1860s, HBC employees regularly traveled and traded around the Puget Sound (Harmon 1998). Tribes around Puget Sound took benefit from trading and bartering with HBC, and many were hired as guides. Fort Nisqually was established in 1833 at the southern end of Puget Sound, the first European settlement on Puget Sound (Bagley 1915). The Snohomish traded with HBC at Fort Nisqually (Ruby and Brown 1986:213). Using the Naches, Snoqualmie, and Yakima passes through the Cascades, even the Yakima people traded with HBC at Fort Nisqually and Fort Langley, to the north. The influence of HBC in the Puget Sound was felt by native people and immigrants alike (Suttles and Lane 1990).

Fort Nisqually was handed over to the US in 1846 after a treaty between Great Britain and the United States had ostensibly settled the dispute over the Oregon Country; however, that treaty was vague as to possession of the islands that straddled the new boundary—including San Juan Island. The HBC took advantage of the confusion, built a log trading post on San Juan Island, and for several years traded with the resident Native American population for fish, which they salted and transported in barrels that they made on site (Bailey-Cummings and Cummings 1987).

At Garrison Bay, the HBC also began a new venture, Bellevue Farm, which was a salmon fishing station and sheep ranch. In 1859 a dispute led to HBC officials demanding the arrest of an American settler. The United States responded by sending sixty-six soldiers to set up a garrison at the southern tip of the island. The British countered with warships and more soldiers. By September 1859 there were three warships with numerous guns and roughly two thousand men on the British side, and nearly five hundred Americans, although fewer cannons. A joint military presence was negotiated (McDonald 1990). In 1860 the HBC charter expired, and British claims to land south of the 49th parallel were laid to rest.

The Wilkes Expedition

The United States Exploring Expedition led by Charles Wilkes was conducted in 1841 at a time when the territories of the Northwest were under contention by British and American interests. In 1845, 31 members of the Michael T. Simmons party cut a wagon trail that became the northern branch of the Oregon Trail at present-day Tumwater. Known as the end of the Oregon Trail or Cowlitz Trail, Tumwater is the oldest permanent American settlement on Puget Sound (Stevenson 1977; 1986:158). The discovery of gold in the Fraser River in 1858 brought more Euro-Americans (Jeffcott 1995). Settlers arrived at Alki Point in 1851 and proceeded to lay claims along the waterfront that became the commercial center of Seattle by the 1860s.

The Donation Land Claim Act of 1850

The pace of immigrant settlement was encouraged by the US 31st Congress, with the 1850 passage of Statute 496, an unnamed Act known by various names, most commonly as the Donation Land Claim Act, which legitimized a practice originally set in motion by the territorial Provisional Government in 1843 (Robbins 2018). The Act was

> to create the Office of Surveyor–General of the Public Lands in [the] Oregon [Territory], and to provide for the Survey, and to make Donations to Settlers of the said Public Lands, ... granted to every white settler or occupant of the public lands, American half-breed Indians included ... three hundred and twenty acres of land, if a single man, and if a married man ... the quantity of one section, or six hundred and forty acres, one half to himself and the other half to his wife, to be held by her in her own right ... [US Statute 496, September 27, 1850]

The law explicitly excluded African Americans and Hawaiians. Prior to its enactment Territorial Delegate Samuel Thurston had told Congress that extinguishing Indian title was the "first prerequisite step" to settling Oregon's land question, so Congress had earlier authorized commissioners to negotiate treaties with that would, among other things, remove Native Americans from their land (Robbins 2018).

Treaties, allotments, assimilation and reorganization

What followed were the 1854 Treaty of Medicine Creek, the 1855 Treaties of Point Elliott, Point No Point, Neah Bay, Yakama, and Walla Walla, and the Quinault Treaty of 1856, by which the American government promised Native American tribes continued resource procurement rights, 'land reservations' (for some, but not all of the tribes), and a one-time payment. Once the treaties were in place, settlement and commercial exploitation of previously tribal lands proceeded almost unfettered. In addition, several subsequent acts of federal legislation created the circumstances that would hasten the already severe breakdown of Tribal lifeways that followed European-introduced disease pandemic in the 1770s that killed nearly 90% of the region's original inhabitants (Boyd 1994).

With the purpose of encouraging Tribal members to adopt the ways of the dominant culture—to assimilate them—the Dawes Act of 1887 provided "for the allotment of lands in severalty to Indians." The most charitable reading of this act was that it was intended to break the tradition of tribal communalism that most immigrants believed was an obstacle to their 'progress' and assimilation into US society; more accurately it as a continuation of efforts ultimately to take even the Reserve lands from the original inhabitants. Those who wished to take part were given either a portion of the reservation on which they lived, or, if their tribe had no reservation, a plot of land in or near their traditional use areas. In both cases the individual was granted US citizenship. Regardless of the reason, fragmentation and fissioning of traditional communities was the inevitable result, which was made worse by provisions of the legislation that enabled eventual sale of the land to non-tribal people. In the 47 years between its enactment and its dismantling, the Dawes Act was responsible for reducing the acreage under Native title from 138 million to just 48 million (Newcomb 2012).

The disastrous effects of the Dawes Act did not go unnoticed. As part of F.D. Roosevelt's New Deal in the 1930s, the Indian Reorganization Act (IRA) (1934) was intended to redress some of the worst effects of the efforts at assimilation. The IRA was intended "to conserve and develop Indian lands and resources; to extend to Indians the right to form business and other organizations; to establish a credit system for Indians; to grant certain rights of home rule to Indians; to provide for vocational education for Indians; and for other purposes" United States (1934).

Although the IRA also restored rights to land and minerals, it was a temporary and controversial measure and by the end of WWII the federal government was back asserting their dominance including the continued abusive practice of removing children from their families and placing them in

'Residential Schools,' where they were forced to speak only English and taught only Euro-American history and culture. Only in the 1970s was this system dismantled, but the loss of cultural memory that it brought about was and is devastating, to say nothing of the intergenerational persistence of accumulated trauma it visited on the children who were subjected to this practice (see, e.g., Brave Heart and DeBruyn 1998).

Industry and infrastructure

Several large-scale commercial undertakings underpinned and dominated economic development and fueled immigration in the region during the nineteenth and early twentieth centuries: construction of transcontinental railroads, logging and sawmilling, mining, and hydroelectric power projects. The Northern Pacific Railway was the first transcontinental route to Puget Sound, completed in 1883 with its terminus at Tacoma. 1893 saw completion of the Great Northern Railway, which terminated in Seattle and was the only privately funded such railway in US history. These railways and their local spurs promoted economic growth and prompted the founding and development of small, coastal sawmill towns throughout the region. Timber harvested locally, or rafted by sea and river, was milled and loaded on trains for transport to the east.

Western Snohomish County and Marysville

Marysville was originally settled in three areas, Ebey Slough, Big Marsh and Kollogg Marsh (Barrett and Olsen 1991:40). Lumber was the major industry in the pre-incorporation days of Marysville. With the lumber industry came both revenue and roads, although the primary form of early transportation before the railroads was by boat (Barrett and Olsen 1991:41).

Railroad magnate James J. Hill proposed Everett as the terminus of the Great Northern transcontinental railroad in the late 1880s causing land speculation in the Everett vicinity to escalate. Investor John D. Rockefeller began buying land around Everett, drawing people to the area. Rail construction in Snohomish County added up to more than ten million dollars between 1888 and 1893 (Interstate Publishing Company 1906:299). The Seattle and Montana Railway tracked through Marysville in 1891, the same year the town was incorporated (Marysville Historical Society and Doug Buelle 2017). In 1892, the Stimson Lumber Company built a railroad south to Marysville (Interstate Publishing Company 1906:374). Everett lost its potential as a rail port city when the railroad terminus was routed to Seattle, and the Panic of 1893 hit.

Conditions improved, and lumber mills were back in operation by 1895 (Baker 1967). Blackman Brothers, who had opened their first sawmill on the Snohomish River in 1884, added engine service to their logging road in 1886 (Interstate Publishing Company 1906:347; Snohomish Historical Society 2017). Capitalizing on the mining potential of the area, Rockefeller gained control of the Monte Cristo and Pride of the Mountains mines approximately 45 miles east of Marysville as well as the United Concentration Company's holdings which were consolidated (Interstate Publishing Company 1906:285). This put the Everett & Monte Cristo Railroad to work leading to organization of the shingle industry (Wilhelm 1904:8).

The founder of Marysville, James P. Comeford, filed the town plat in 1885 after operating a trading post on the Tulalip Reservation for six years (Dougherty 2007). In 1890 Marysville had 47 dwellings, 14 business houses, two shingle mills and one saw mill (Interstate Publishing Company 1906:347). The Marysville Shingle Company was formed in 1899 (Interstate Publishing Company 1906:299). One hundred homes were built in Marysville between 1902 and 1904 and at this time Marysville was home to four shingle mills, one saw mill, a foundry and a machine shop (Wilhelm 1904:8-9). In 1906 businesses included the Dexter Mill Company, the Harrington Shingle Company, the Marysville Mill Company and the Smith Manufacturing Company (Wilhelm 1906:149).

Federal Aid Highway Act of 1956 funded the construction of Interstate 5 (I-5) which led to the completion of I-5 from Everett to Marysville in 1969. The final piece of I-5 south of the project area included 11 bridges (Dougherty 2010).
Following the completion of I-5, traffic through Marysville expanded. Today Marysville is a growing suburban community easily accessible to the urban center of Everett and the agricultural attractions of Skagit Valley.

History of the project area

The Sanborn insurance map for the vicinity of the project area shows that in 1912 Marysville High School occupied the space just west of Cedar Field.

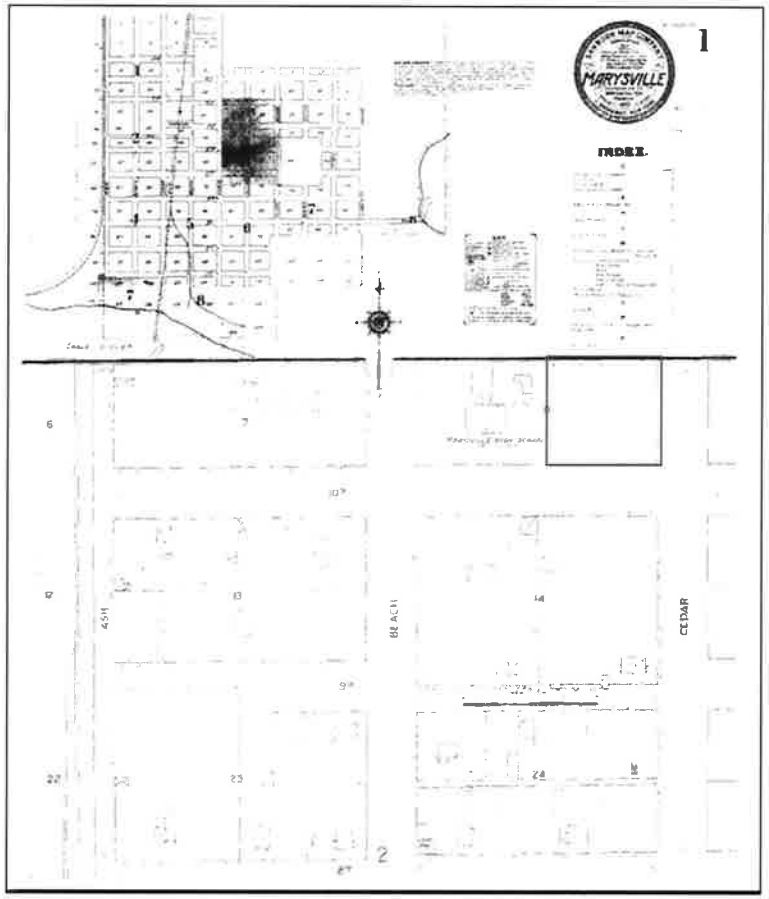

Figure 11: 1912 Sanborn insurance map showing the project area outlined in red.

4.3 Previous Archaeology

For general overviews of the archaeology and cultural resources of the Northwest Coast, see Ames (1995, 2003, 2005a, 2005b), Ames and Maschner (1999), Borden (1950, 1951, 1962, 1968, 1975), Boyd (1998, 1999), Burley (1980), Butler (1961), Butler and Campbell (2004), Campbell (1991), Carlson (1990), Carlson and Dalla Bona (1996), Erlandson et al. (1998), Fladmark (1975, 1982), Matson and Coupland (1995), Matson et al. (2003), Meltzer (2004), Meltzer and Dunnell (1987), Mitchell (1971, 1990), Nelson (1990), Pratt (1992), and Prentiss and Kuijt (2004, 2012).

The earliest archaeological studies of the northern Puget Sound are H.I. Smith's (1900, 1907). In addition to those cited in the next two sections, more recent archaeological overviews can be found in Avey (1991), Avey and Starwich (1985), Blukis Onat (1987), Blukis Onat et al. (1980), Blukis Onat and Kiers (2007a, 2007b), Bryan (1963), Burtchard et al. (2003 [1998], 2007), Campbell (1984), Carlson (1960), Carlson and Hobler (1993), Greengo (1983), Hale (1991), Hearne and Hollenbeck (1996), Hollenbeck (1987), Hollenbeck and Carter (1986), Kidd (1964), Lewarch (1979), Lewarch and Larson (2003), Lewarch et al. (2005, 2006), Mattson (1971, 1989), Mierendorf (1986), Mierendorf et al. (1998), Miss and Campbell (1991), Samuels (1993), Schalk (1988), A. Smith (1964), Smith and Fowkes (1901), Snyder (1980, 1981), Stein (1984, 2000), Stein and Phillips (2002), Tarver (1963), Wessen (1988)).

Previously Recorded Archaeological Sites

Records of twelve archaeological sites within one mile of the project area are on file at the Washington State Department of Archaeology and Historic Preservation (DAHP). A short description of the sites is provided below (Table 2).

Table 2: Previously recorded archaeological sites within two miles of the project area.

Site #	Type	Distance from project area	Citations	NRHP Eligibility
SN00715	Historic	0.75 mi	Patsch 2019	Survey/Inventory
SN00713	Prehistoric Isolate	0.45 mi	Iversen 2019	Survey/Inventory
SN00414	Historic Isolate	0.55 mi	Herkelrath 2007a	Potentially Eligible
SN00410	Historic	0.65 mi	Herkelrath 2007b	Potentially Eligible
SN00399	Historic	1.0 mi	Shong 2005a	Potentially Eligible
SN00400	Prehistoric	0.9 mi	Shong 2005b	Survey/Inventory
SN00092	Prehistoric	0.5 mi	Miss 1991	Determined Not Eligible
SN00038	Prehistoric Shell Midden	0.3 mi	Fuller 1974	Survey/Inventory
SN00039	Prehistoric Shell Midden	0.6 mi	Fuller 1977	Survey/Inventory
SN00012	Prehistoric	0.7 mi	Bryan 1954	Survey/Inventory

45SN715 is a horse-drawn field cultivator located approximately 0.75 miles southeast of the project area. The wood frame is intact and its condition is described as good (Patsch 2019).

45SN713 is a lithic isolate located approximately 0.45 miles southwest of the project area. The site consists of three pieces of lithic debitage located along Marine Drive North (Iversen 2019).

45SN414 is a historic isolate located approximately 0.55 mi southwest of the project area. The site consists of a large fragment of a ceramic plate. A maker's mark on the bottom of the plate indicate the manufacturer as K. T. & M. Company circa 1920 (Herkelrath 2007a).

45SN00410 is a historic debris scatter located approximately 0.65 miles southwest of the project area. The debris scatter contains bottles, glass, ceramic, and brick fragments dating to the early 1900's (Herkelrath 2007b).

45SN00399 is a historic WPA drainage feature circa the 1930's. The drainage is thought to be associated with the construction or maintenance of Marine Drive. The feature is located approximately 1.0 mile southwest of the project area (Shong 2005a).

45SN00400 is a subsurface deposit of fire-modified rock, charcoal, and charcoal-stained sediments observed in two shovel probes. The site is located approximately 0.9 miles southwest of the project area (Shong 2005b).

45SN00092—The Hind Site is a prehistoric site consisting of burnt earth and fire-modified rock. It is located on a bluff above Quilceda Creek approximately 0.5 miles southwest of the project area (Miss 1991).

4SN00038 is a prehistoric site consisting of shell midden, fire-modified rock, and bone. It is located on a cut bank above Quilceda Creek, about 0.3 miles northwest of the project area (Fuller 1974).

45SN00039 is a prehistoric shell midden site consisting of shell, mussel, fish bone, mammal bone, charcoal, and fire-modified rock. It is located on a cut bank above Quilceda Creek about 0.6 miles northwest of the project area (Fuller 1977).

45SN00012 is a prehistoric shell midden site consisting of shell fragments, charcoal, fire-modified rock, and at least one lithic flake. It is located on a terrace about 0.7 miles north of the project area (Bryan 1954).

There are eight reports on file with DAHP from previous cultural resource surveys within 0.5 miles of the project area; they are listed below in Table 3.

Table 3: Previous cultural resource reports on file with DAHP.

Author	Title	Date
Baldwin	*Letter to Adam Escalona RE: Cultural Resources Review for the AT&T Mobility Project, SN2892 Maryville Grove.* **Pedestrian survey. No Protected Cultural Resources.**	2014
Meidenger and Baldwin	*Archaeological Survey and Assessment for the Marysville Special Care Facility Project, Marysville.* **Pedestrian survey and 14 shovel probes. No Protected Cultural Resources.**	2011
Earley and Rinck	*Cultural Resources Assessment of the Tulalip Water Pipeline.* **Pedestrian survey, 37 shovel probes. No Protected Cultural Resources.**	2010
Chidley	*Letter to Allyson Brooks RE: Request for Determination of Effects Concurrence I-5 Marysville to Stillaguamish River Vic. Project.* **3 shovel probes. No Protected Cultural Resources.**	2008
Herkelrath	*Letter to Harold Fowler RE: Archaeological Monitoring of Site 45SN410 at the H.D. Fowler Construction Site, Tulalip.* **Shovel testing, unknown number of probes. No Protected Cultural Resources.**	2007c

Author	Title	Date
Herkelrath	*Letter to Howard Fowler RE: Archaeological Monitoring at the H.D Fowler Construction Site, Tulalip.* **Monitoring of grading with an excavator. No Protected Cultural Resources.**	2007d
Berger	*Cultural Resources Assessment for the Community Transit North Park and Ride – Marysville.* **Pedestrian survey, 2 shovel probes. No Protected Cultural Resources.**	2007
Lenz	*Letter to Mr. Harold Fowler Regarding an Archaeological Survey Report for Parcel 300529-004-012-00.* **Pedestrian survey and archival research. No Protected Cultural Resources.**	2006

National Register Properties

There is one National Register Property on file with DAHP within 1.0 mile of the AP project area E. A short description is provided below.

SN00139—Marysville Opera House is a two-story poured concrete structure. It was built by the International Order of the Oddfellows in 1911 and represents an architectural departure from the wood and masonry building commonly used in the region (Lambert 1980).

Archaeological Expectations

Although the area where Marysville now stands has likely been inhabited as long as there have been people in the region—at least 12,500 years—and although there are approximately 15 places around the project area for which there are traditional names, there are no documented village sites in the vicinity of Cedar Field. Ten archaeological sites have been recorded within one mile of the project area. All but one of these sites occur along Quil Ceda Creek which lies 0.4 mile west of the project area.

The landform and surface sediments in the project area are glacial in origin; elsewhere in the Puget Lowland such surfaces have been found to contain naturally buried cultural resources spanning the time since the Olcott archaeological culture, about 10,000 years ago. However, Olcott materials have been found on relatively level terrain, slightly higher above sea level.

DAHP considers the overall risk of encountering precontact cultural resources to be high in places near to the sea or streams. Shoreline archaeological sites are often associated with resource procurement and may include evidence such as fish weirs, plant and animal processing tools and evidence of temporary camps. The project area lies in an area that could have been a potential travel corridor between such places. This increases the probability of finding isolated precontact artifacts.

Immigrant settlement began around Marysville in the mid-1800s, and the area has been continuously occupied by immigrant populations since the 1880s. The project area is in the vicinity of the Great Northern Railroad. It would be likely to find isolated artifacts associated with the railroad or residential activities.

5.0 METHODS

This section provides details on the archival research and fieldwork methods that Equinox Research and Consulting International Inc. (ERCI) employed in support of the Project. The research undertaken

for the Project uses best-practice archaeological survey techniques to record the presence or absence of moderate to large archaeological sites, with the expectation that we may also find isolated artifacts or features, or small artifact scatters. When sites or isolated artifacts are discovered ERCI records them on DAHP forms in accordance with the *Washington State Standards for Cultural Resources Reporting*.

5.1 Archival Research

ERCI researchers

- Reviewed site forms and reports of previous archaeology on file at the Department of Archaeology and Historic Preservation (DAHP) in Olympia, Washington
- Reviewed other archaeological reports and related documents on file at the ERCI offices in Mount Vernon, Washington
- Reviewed published information on the precontact, traditional Native American and historic land use in and around the project area
- Reviewed the County Assessor's records
- Reviewed General Land Office, Sanborn, and other historic maps

5.2 Fieldwork

ON September 5, 2019 ERCI carried out an archaeological investigation of the project area. The field team was led by Sarah Johnson Humphries, MA, assisted by Paige Hawthorne, MA and Caspian Hester, BA. The crew was met on location by Jim Ballew, Director of Parks, Culture and Recreation for the City of Marysville.

Shovel Tests (ST) consisted of cylindrical pits dug by hand using round-nosed shovels, approximately 50 centimeters (cm) in diameter, ranging up to 100 cm deep. STs were abandoned before reaching the maximum possible depth due to uncovered utilities or when at least a 10 cm depth of unaltered sterile glacial sediments have been excavated. All excavated sediments were passed through ¼-inch mesh hardware cloth shaker screens. Any artifacts recovered were described and photographed, then returned to the same ST from which they came.

ST location overview photographs were taken, along with photographs of their sedimentary profiles. Once documentation was complete STs were backfilled with the excavated sediments and the surface restored to its original grade. No samples were removed from the project area. Sediments encountered were characterized and recorded on paper, and activities photographed using digital cameras or phones. ST and other locations were obtained using a Global Navigation Satellite System (GNSS) Global Positioning System (GPS) high-accuracy receiver. Sedimentary matrix and shovel test descriptions and photo logs are provided in the appendices. Field notes, digital photographs and GIS shape files are stored at ERCI's offices in Mount Vernon, Washington.

Shovel test (ST) locations were chosen for maximum coverage of the project area while limiting the potential for encountering utilities and creating hazards for children who use the field regularly.

6.0 RESULTS

Weather was sunny and warm for fieldwork. The project area lies entirely on level ground in a recreational baseball field. Mr. Ballew informed the crew that subsurface electrical wiring was likely to be encountered in the area outside of the fence. Thus, shovel testing was confined to the area inside the fence.

Figure 12: View east of field.

Figure 13: View southeast of field.

Figure 14: View north of field.

Figure 15: View southwest of ERCI crew at ST 4.

Figure 16: View east of parking area by field.

6.1 Pedestrian Survey

A pedestrian survey was conducted in tandem with our shovel testing program. All features present were related directly to the project area current use as a recreational baseball field. **No protected cultural resources were found.**

6.2 Subsurface Survey

ERCI excavated 12 STs in the project area. Figure 5 indicates the locations of the 12 STs. Three were conducted in the outfield of the baseball diamond; nine were conducted around the perimeter of the field but within the fence. Sediments observed included a disturbed surface sediment (M1) and a glacial outwash (M2). Given current use of the project area and the geological history of the area, these sediments were in keeping with expectations. Figure 18 is an image of ST 1's profile, which comprises M1 overlying M2, the typical sediment profile for this project area. Figure 19 illustrates a highly disturbed mixture of the two sediments. Four STs contained green plastic mesh. Three STs contained subsurface utilities. Six STs contained modern refuse: clear and brown glass fragments, plastics, a concrete fragment, nails, screws, and a pull tab. **No protected cultural resources were found.**

Figure 17: Aerial map indicating locations of STs in black with the project area outlined in red.

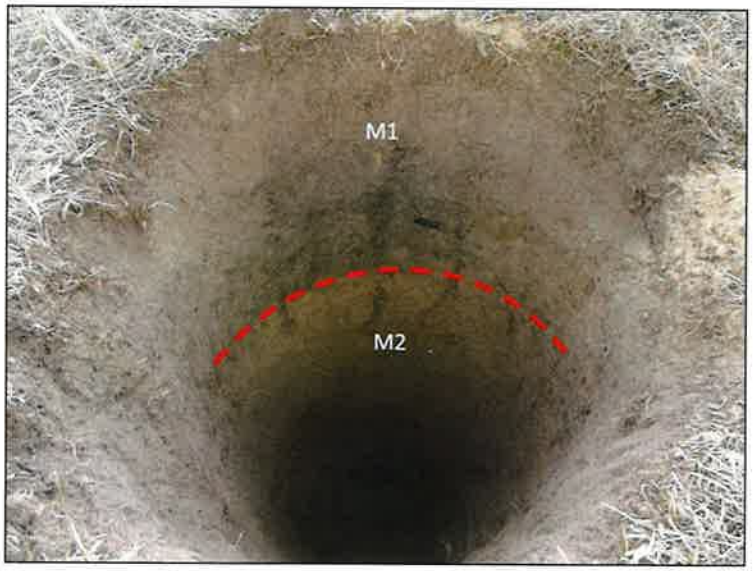

Figure 18: View east of ST 1 profile with sediment interface indicated in red.

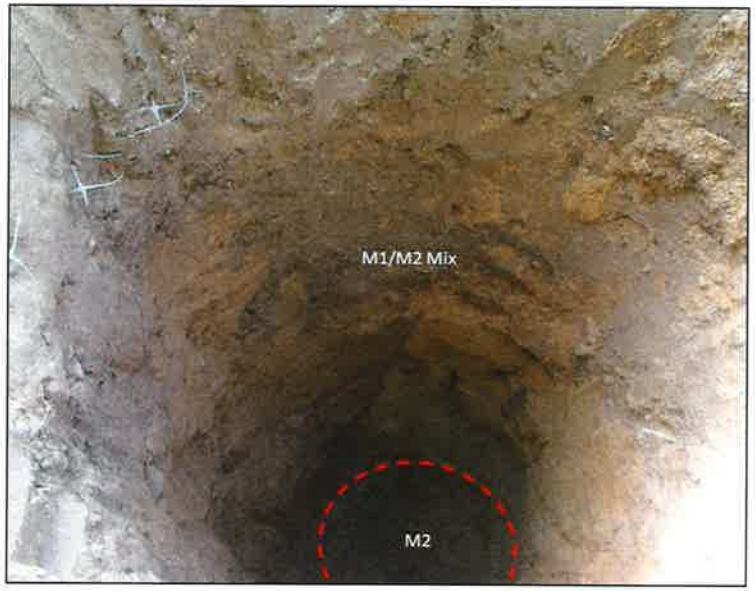

Figure 19: View southeast of ST 11 profile with sediment interface indicated in red.

6.3 Discussion

Although the project area was in a high probability area for both precontact and historic artifacts **No protected cultural resources were discovered.** Given the current and historical use of the land in the project area the extent of disturbance of sediments lying atop the glacial outwash does not defy expectations.

7.0 MANAGEMENT RECOMMENDATIONS

No protected cultural resources were identified during our fieldwork. The management recommendations that we are now providing are based on our findings from this field investigation. We recommend that:

4. The proposed project proceed as planned, following an unanticipated discovery protocol (UDP) training given to all construction personnel by a professional archaeologist. A copy of the Unanticipated Discoveries Protocol (UDP) to be kept on site at all times.
5. In the event that any ground-disturbing activities or other project activities related to this development or in any future development uncover protected archaeological objects or sediments (e.g., old bottles or cans, charcoal, bones, shell, stone, horn or antler tools or weapons), all work in the immediate vicinity should stop, the area should be secured, and any equipment moved to a safe distance away from the location. The on-site superintendent should then follow the steps specified in the UDP.
6. In the event that any ground-disturbing activities or other project activities related to this development or in any future development uncover human remains, all work in the immediate vicinity should stop, the area should be secured, and any equipment moved to a safe distance away from the location. The on-site superintendent should then follow the steps specified in the UDP.

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9.0 APPENDICES

Appendix 1: Shovel Test Descriptions, Particle Size Classes and Matrix Descriptions

Particle Size Classes

Scale	Clay	Silt	Sand	Gravel	Pebble	Cobble	Boulder
in	<.00015	.00015–.0025	.0025–.08	.08–1	1–4	4–10	>10
mm	<.004	.004–.062	.062–2	2–25.4	25.4–102	102–254	>254

Matrix Descriptions

Matrix 1: 2.5 Y 4/4 Olive brown, 95% sandy silt, 5% pebbles; Disturbed; Moderate compaction; dry.

Matrix 2: 10 YR 7/4 Very pale brown mottled at 5% with 10 YR 6/4 light yellowish brown. Silty sand 99%, <1% gravels; Glacial; Moderate compaction; Dry.

Shovel Test Descriptions

ST	Depth (cm)	Dia (cm)	Matrix Description	Comments	Location
1	100	45	**0-33:** M1- 5 small glass fragments in M1 **33-100:** M2	Negative Terminate: 1m reached	Northwest corner of field
2	100	50	**0-34:** M1- Brown glass fragments, brick. **34-50:** Transition- Clear transition **50-100:** M2	Negative Terminate: Plan	E of ST1
3	80	46	**0-50:** M1- 1 piece broken concrete, 3 brown glass fragments, 1 3mm nail, 1 pull tab. **50-80:** M2	Negative Terminate: Plan	West end of field
4	95	50	**0-54:** M1- with 10% imported gravel- Clear transition. **54-100:** M2 with more light yellowish brown and grey silty sand- glacial Green plastic sod mesh @10cm	Negative Terminate: Plan	South of ST1
5	80	43	**0-32:** M1- one rusted 3.5" screw in M1 **32-80:** M2	Negative Terminate: Plan	Southwest end of field
6	90	50	**0-38:** M1- Clear glass, green plastic sod mesh @ 10cm dbs. -clear transitions **38-90:** M2, more yellowish-brown silty sand.	Negative Terminate: Plan	South of ST4

ST	Depth (cm)	Dia (cm)	Matrix Description	Comments	Location
7	40	40	**0-30:** uncovered gray pipe at ~25cmdbs running East to West **30-40:** M2 except around pipe. Pipe 3" diameter, gray plastic "PWEAGLE" printed on site.	Negative Terminate: utility	Southeast corner of field
8	105	50	**0-42:** M1- Green plastic sod mesh @10cm dbs **42-105:** M2- with mixed coarse grey sand @95cm dbs.	Negative Terminate: Plan	East of ST6
9	60	45	**0-60:** M1 At 55 is a 3 inch in diameter PVC pipe from irrigation, running North to South across Eastern side of playfield.	Negative Terminate: utility	East of ST8 SE corner of field
10	94	44	**0-44:** M1- Burned wood likely from tree clearing- clear transition **44-94:** M2	Negative Terminate: Plan	North of ST9, East side of field
11	100	41	**0-90:** M1 and M2 mix- Modern refuse, plastic and nails. **90-100:** M2- Intact	Negative Terminate: 1m	Behind Homeplate
12	76	40	**0-55:** M1 mottled with M2 **55-76:** M2 disturbed. At 75cm: 2 in in diameter PVC pipe running East to West along North side of field- green mesh till about 20cm.	Negative Terminate: utility	West of ST11 North side of field.

Appendix 2: Photograph Log

Number	View	Description
190905PEH001	E	ST 2 profile without scale
190905PEH002	E	ST 2 profile with scale
190905PEH003	E	ST 2 overview
190905PEH004	W	ST 4 profile without scale
190905PEH005	W	ST 4 profile with scale
190905PEH006	E	ST 4 overview
190905PEH007	S	ST 6 profile without scale
190905PEH008	S	ST 6 profile with scale
190905PEH009	E	ST 6 overview
190905PEH010	S	ST 8 profile without scale
190905PEH011	S	ST 8 profile with scale
190905PEH012	W	ST 8 overview
190905PEH013	S	ST 9 profile without scale
190905PEH014	S	ST 9 profile with scale
190905PEH015	S	ST 9 overview
190905PEH016	S	ST 10 profile without scale
190905PEH017	S	ST 10 profile with scale
190905PEH018	S	ST 10 overview
190905PEH019	N	ST 12 profile without scale
190905PEH020	N	ST 12 profile with scale
190905PEH021	N	ST 12 overview
190905PEH022	E	Overview from NW corner
190905PEH023	SE	Overview from NW corner
190905PEH024	N	Overview view from SW end
190905PEH025	N	Overview view from SE corner
190905PEH026	NW	Overview view from SE corner
190905CPH001	E	ST 1 profile without scale
190905CPH002	E	ST 1 profile without scale
190905CPH003	E	ST 1 profile with scale
190905CPH004	S	ST 4 overview from ST 1
190905CPH005	E	ST 1 overview
190905CPH006	W	ST 1 overview
190905CPH007	Plan	Clear glass fragments from ST 1
190905CPH008	Plan	Refuse from ST 3
190905CPH009	Plan	Refuse from ST 3
190905CPH010	E	ST 3 profile without scale
190905CPH011	E	ST 3 profile with scale
190905CPH012	E	Overview from ST 3
190905CPH013	NW	overview ST 3
190905CPH014	Plan	ST 3 concrete
190905CPH015	Plan	ST 5 screw

190905CPH016	E	ST 5 profile without scale
190905CPH017	E	ST 5 profile with scale
190905CPH018	W	Overview from ST 5
190905CPH019	E	ST 7 profile without scale
190905CPH020	E	ST 7 profile without scale
190905CPH021	E	ST 7 profile with scale
190905CPH022	Plan	Close up of pipe in ST 7
190905CPH023	E	ST 7 overview
190905CPH024	SE	ST 11 profile without scale
190905CPH025	SE	ST 11 profile without scale
190905CPH026	SE	ST 11 profile with scale
190905CPH027	SW	ST 11 overview
190905CPH028	Plan	Refuse from ST 11
190905CPH029	SE	Overview from gravel parking area

Appendix 3: Unanticipated Discovery Protocol

In the event that any ground-disturbing activities or other project activities related to this development or any future development uncover protected cultural material (see below), the following actions should be taken:

1. If the cultural material is a historic or precontact object (glass bottle, tin can, stone, bone, horn or antler tool); a historic or precontact feature (hearth, building foundation, privy), then the on-site supervisor should avoid the object, secure the location and relocate work activities to a different part of the project area. The Project manager should then call a professional archaeologist to evaluate the discovery.
2. If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity will cease that may cause further disturbance to those remains. The area of the find will be secured and protected from further disturbance. The finding of human skeletal remains will be reported to the county medical examiner/coroner and local law enforcement in the most expeditious manner possible. The remains will not be touched, moved, or further disturbed. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are non-forensic, then they will report that finding to the Department of Archaeology and Historic Preservation (DAHP) who will then take jurisdiction over the remains. The DAHP will notify any appropriate cemeteries and all affected tribes of the find. The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Cultural material that may be protected by law could include but is not limited to:

- Logging, mining, railroad, or agriculture equipment older than 50 years (Figure 20)
- Historic foundations (Figure 21)
- Historic bottles, china and soldered dot cans (Figure 22, Figure 23)
- Buried cobbles that may indicate a hearth feature (Figure 25)
- Non-natural sediment or stone deposits that may be related to activity areas of people
- Stone tools or stone flakes, projectile points (arrowheads), ground stone adzes or grinding stones (abraders) (Figure 26–Figure 29)
- Bone, shell, horn, or antler tools that may include scrapers, cutting tools, wood working wedges (Figure 30, Figure 31)
- Perennially damp areas may have preservation conditions that allow for remnants of wood and other plant fibers; in these locations there may be remains including fragments of basketry, weaving, wood tools, or carved pieces (Figure 32)
- Cultural depressions
- Culturally modified trees (Figure 33)
- Pictographs or petroglyphs (Figure 34 and Figure 35)
- Human remains

Figure 20: Example of railroad ties for UDP.

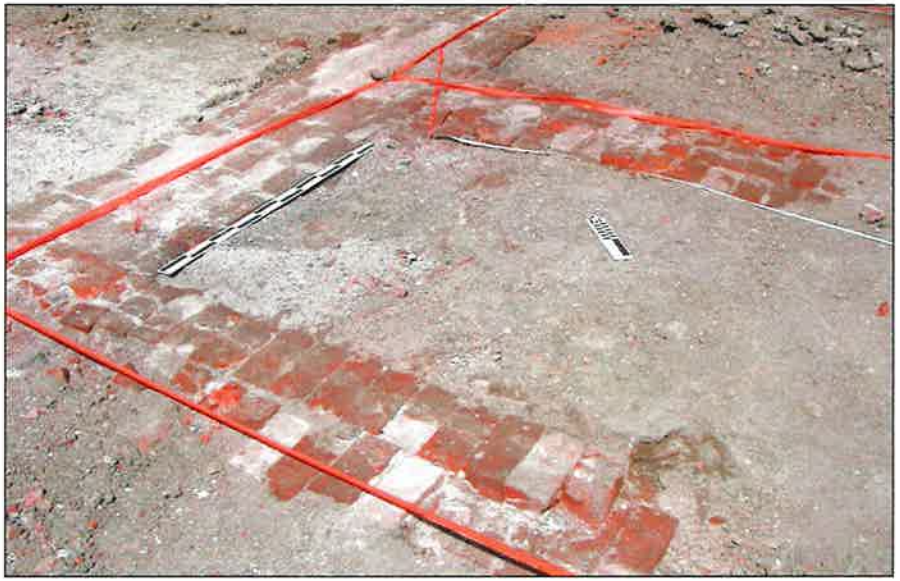

Figure 21: Example of historic foundation for UDP.

Figure 22: Example of historic glass artifacts for UDP.

Figure 23: Example of historic solder dot can for UDP

Figure 24: Example of protected shell midden for UDP.

Figure 25: Example of protected rock-lined hearth feature for UDP.

Figure 26: Example of projectile point for UDP.

Figure 27: Example of protected adze blade for UDP.

Figure 28: Example of stone tool for UDP.

Figure 29: Example of stone tool for UDP.

Figure 30: Example of bone awl for UDP.

Figure 31: Example of worked bone and spines for UDP.

Figure 32: Example of cedar bark basketry for UDP.

Figure 33: Example of planked tree for UDP.

Figure 34: Example of pictographs for UDP.

Figure 35: Example of petroglyphs for UDP.

CONTACT LIST

Name	Affiliation	Telephone	Email
Sheriff	Marysville	360-363-8300 or 911	
Medical Examiner	Snohomish County	425-438-6200	
Kyle Woods	Marysville Parks and Recreation	425-344-1505	KWoods@marysvillewa.gov
Dan Haws,	RCO Project Manager	360-902-3079	dan.haws@rco.wa.gov
Guy Tasa PhD	DAHP, State Physical Anthropologist	360-586-3534	Guy.Tasa@dahp.wa.gov
Rob Whitlam	DAHP, State Archaeologist	360-586-3080	Rob.Whitlam@dahp.wa.gov
Kelly R. Bush	ERCI archaeologist	360-826-4930	kelrbush@equinoxerci.com
Michael Evans	Snohomish Tribe	425-671-1387	
Kerry Lyste	Stillaguamish Tribe	360-652-7362 ex. 226	klyste@stillaguamish.com
Richard Young	Tulalip Tribes	425-239-0182	ryoung@tulaliptribes-nsn.gov

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incorporated

Subsurface Exploration and
Preliminary Geotechnical Engineering Report

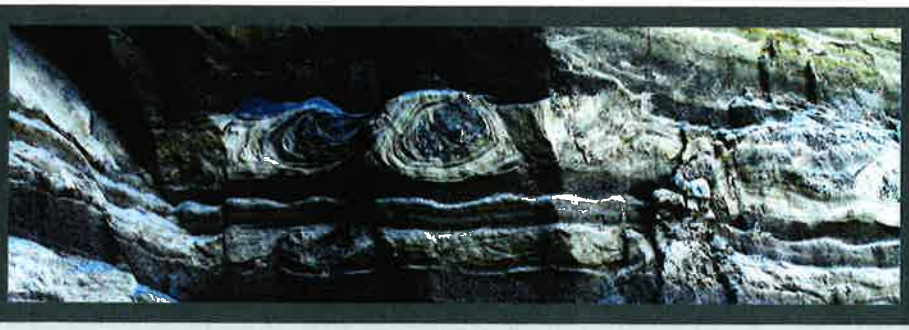
CEDAR FIELD LIGHTING

Marysville, Washington

Prepared For:

CITY OF MARYSVILLE
DEPARTMENT OF PARKS, CULTURE, AND RECREATION

Project No. 180110E001
April 17, 2018



Associated Earth Sciences, Inc.
911 5th Avenue
Kirkland, WA 98033
P (425) 827 7701
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associated
earth sciences
incorporated

April 17, 2018
Project No. 180110E001

City of Marysville
Department of Parks, Culture, and Recreation
6915 Armar Road
Marysville, Washington 98270

Attention: Mr. Jim Ballew

Subject: Subsurface Exploration and Preliminary Geotechnical Engineering Report
Cedar Field Lighting
1010 Cedar Avenue
Marysville, Washington

Dear Mr. Ballew:

Associated Earth Sciences, Inc. (AESI) is pleased to present the enclosed copies of our preliminary geotechnical engineering report for the referenced project. This report summarizes the results of our subsurface exploration and geotechnical engineering studies and offers preliminary geotechnical engineering recommendations for the design of the proposed project.

We have enjoyed working with you on this study and are confident that the recommendations presented in this report will aid in the successful completion of your project. Please contact us if you have any questions or if we can be of additional help to you.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

Matthew A. Miller, P.E.
Principal Engineer

MM/ms
180110E001-2
Projects\20180110\KE\WP

SUBSURFACE EXPLORATION AND PRELIMINARY GEOTECHNICAL ENGINEERING REPORT

CEDAR FIELD LIGHTING

Marysville, Washington

Prepared for:
City of Marysville
Department of Parks, Culture, and Recreation
6915 Armar Road
Marysville, Washington 98270

Prepared by:
Associated Earth Sciences, Inc.
911 5th Avenue
Kirkland, Washington 98033
425-827-7701
Fax: 425-827-5424

April 17, 2018
Project No. 180110E001

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of our subsurface exploration and preliminary geotechnical engineering studies for the proposed Cedar Field Lighting. The site location is shown on the "Vicinity Map," Figure 1. Existing site features, and the approximate locations of the subsurface explorations referenced in this study are presented on the "Site and Exploration Plan," Figure 2. This report is based on our email discussions with you; a preliminary site plan titled "Cedar Falls Layout," prepared by the City of Marysville, dated February 1, 2018; and our general knowledge of geologic conditions in the vicinity of the site. At the time this report was written, no detailed plans had been formulated for the project.

1.1 Purpose and Scope

The purpose of this study was to provide subsurface soil and shallow groundwater data to be utilized in the preliminary design of the proposed Cedar Field Lighting. Our study included a review of selected available geologic literature, completing four hollow-stem auger soil borings, and performing geologic studies to assess the type, thickness, distribution, and physical properties of the subsurface sediments and shallow groundwater. A preliminary geotechnical engineering study was completed to formulate recommendations regarding foundation design for new light fixtures. This report summarizes our current fieldwork and offers development recommendations based on our present understanding of the project.

2.0 PROJECT AND SITE DESCRIPTION

The project site is that of the existing baseball field located on Cedar Avenue in Marysville, Washington. The baseball field is bounded by The Boys and Girls Club of America building and parking lot to the west, an alley to the north, Cedar Avenue to the east, and 10th Street to the south. The baseball filed is a natural turf field with sand surface base paths and pitching mound. The field also has a small section of bleachers on first and third base sides, two bullpens, and perimeter fencing.

We understand that the proposed project will include the installation of four Musco light poles. The new light poles will be located near the left and right field corners, and one on either side of home plate near the bleachers. The poles will have a concrete base installed that will support the light tower.

3.0 SITE EXPLORATION

On March 20, 2018, we completed four hollow-stem auger borings at the locations shown on Figure 2. Logs of the borings, labeled EB-1 to EB-4, are included in the Appendix of this report. The borings were completed by advancing a 3-inch inside-diameter, hollow-stem auger with a track-mounted drill rig. During the drilling process, samples were obtained at generally 2.5- to 5-foot-depth intervals. The exploration borings were continuously observed and logged by an engineering geologist from our firm. The various types of soils, as well as the depths where characteristics of the soils changed, are indicated on the exploration logs presented in the Appendix of this report. The exploration logs presented in the Appendix are based on the field logs, drilling action, and observation of the samples secured. Our explorations were approximately located by measuring from known site features shown on the drawing that was provided to us. Because of the nature of exploratory work, extrapolation of subsurface conditions between field explorations is necessary. Differing subsurface conditions may be present due to the random nature of natural sediment deposition and the alteration of topography by past grading and filling. The nature and extent of any variations between the field explorations may not become fully evident until construction. If variations are observed at the time of construction, it may be necessary to re-evaluate specific recommendations in this report and make appropriate changes.

Disturbed, but representative samples were obtained by using the modified Standard Penetration Test (SPT) procedure. This test and sampling method consists of driving a 2-inch outside-diameter, split-barrel sampler a distance of 18 inches into the soil with a 140-pound hammer free-falling a distance of 30 inches. The number of blows for each 6-inch interval is recorded, and the number of blows required to drive the sampler the final 12 inches is known as the Standard Penetration Resistance ("N") or blow count. If a total of 50 is recorded within one 6-inch interval, the blow count is recorded as the number of blows for the corresponding number of inches of penetration. The resistance, or N-value, provides a measure of the relative density of granular soils or the relative consistency of cohesive soils; these values are plotted on the attached exploration boring logs.

The samples obtained from the split-barrel sampler were classified in the field and representative portions placed in watertight containers. The samples were then transported to our laboratory for further visual classification.

4.0 SUBSURFACE CONDITIONS

Subsurface conditions at the project site were inferred from the field explorations conducted for this study, visual reconnaissance of the site, and a review of selected applicable geologic literature. As shown on the field logs, our exploration borings encountered Marysville Recessional Sands below the surficial layers.

4.1 Stratigraphy

Marysville Recessional Sands

Sediments encountered beneath surficial layers in our explorations generally consisted of massive, loose to medium dense sand and gravel with variable silt content. We interpret these sediments to be representative of Marysville Recessional Sands. These recessional sands were deposited by meltwater streams flowing off of the retreating glacial ice during the latter portion of the Vashon Stade of the Fraser Glaciation approximately 12,500 to 15,000 years ago. This unit is suitable for support of light to moderately loaded foundations.

4.2 Hydrology

Shallow groundwater was encountered in all of our borings. Groundwater encountered at this site is representative of the regional aquifer. It should be noted that fluctuations in the level of the groundwater may occur due to the time of the year, on- and off-site land use, and variations in the amount of rainfall.

4.3 Published Geologic Map

We reviewed a published geologic map of the area (J.P. Minard, 1985, *Geologic Map of the Marysville Quadrangle, Snohomish County, Washington*, U.S. Geological Survey (USGS) Miscellaneous Field Studies Map MF-1743). The referenced map indicates that the site vicinity is characterized by the Marysville Sand Member (Qvrm), with younger alluvial units mapped to the south.

II. PRELIMINARY DESIGN RECOMMENDATIONS

5.0 INTRODUCTION

It is our opinion that, from a geotechnical engineering standpoint, the proposed new light pole foundations are feasible provided that the recommendations contained herein are properly followed. Light pole foundations should be designed with lateral and vertical capacities that are applicable to the materials in which they are embedded. We are available on request to assist in identification of appropriate soil support parameters to be used at specific light locations when those locations are selected.

6.0 LIGHT POLE FOUNDATIONS

We anticipate that light pole foundations for this project will consist of concrete piers cast neat against the sidewalls of drilled holes. Temporary casing should be used to support the excavations for the light pole foundations in order to facilitate construction and limit caving.

6.1 Vertical Compressive Capacities

For this project, we anticipate that lateral capacities will be the most critical design factor for the light pole foundations, and will likely exert the most control over the depth of embedment.

The exploration borings of this site revealed subsurface conditions that varied slightly over horizontal distances and depths. End-bearing capacities and depths are given for each light pole location in the following table:

Table 1
Recommended Light Pole Foundation End-Bearing Capacity

Boring Number	Minimum Depth to Base of Foundation (feet)	Recommended Allowable End Bearing (psf)
EB-1	10	2,000
EB-2	10	2,000
EB-3	15	2,000
EB-4	10	2,000

psf = pounds per square foot

6.2 Lateral Capacities

Passive Pressure Method

Lateral loads on the proposed light pole foundations, caused by seismic or transient loading conditions, may be resisted by passive soil pressure against the side of the foundation. An allowable passive earth pressure of 150 pounds per cubic foot (pcf), expressed as an equivalent fluid unit weight, may be used for that portion of the foundation embedded within the Marysville Recessional Sands. The above value only applies to foundation elements cast "neat" against undisturbed soil. Temporary casing used to install foundations should be removed after the concrete is set. Passive values presented are assumed to be a triangular pressure distribution over 2-foot diameter beginning at the surface and held at a constant depth greater than 8 feet. The triangular pressure distribution is truncated above 2 feet.

Light Pole Foundation Construction Considerations

In our opinion, the light pole foundation excavations will need to be cased during drilling to facilitate construction and limit caving. In order to achieve the passive pressure given, the temporary casing should be removed once the concrete or grout area has been placed. The contractor should include temporary casing for the light pole foundation holes in his base bid, in our opinion. Exploration borings suggest that light pole borings may encounter varying degrees of gravel.

7.0 PROJECT DESIGN AND CONSTRUCTION MONITORING

We are available to provide additional geotechnical consultation as the project design develops and possibly changes from that upon which this report is based. We recommend that AESI perform a geotechnical review of the plans prior to final design completion.

We are also available to provide geotechnical engineering and monitoring services during construction. The integrity of the light pole foundations depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field in the event that variations in subsurface conditions become apparent. Construction monitoring services are not part of this current scope of work. If these services are desired, please let us know, and we will prepare a cost proposal.

We have enjoyed working with you on this study and are confident these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

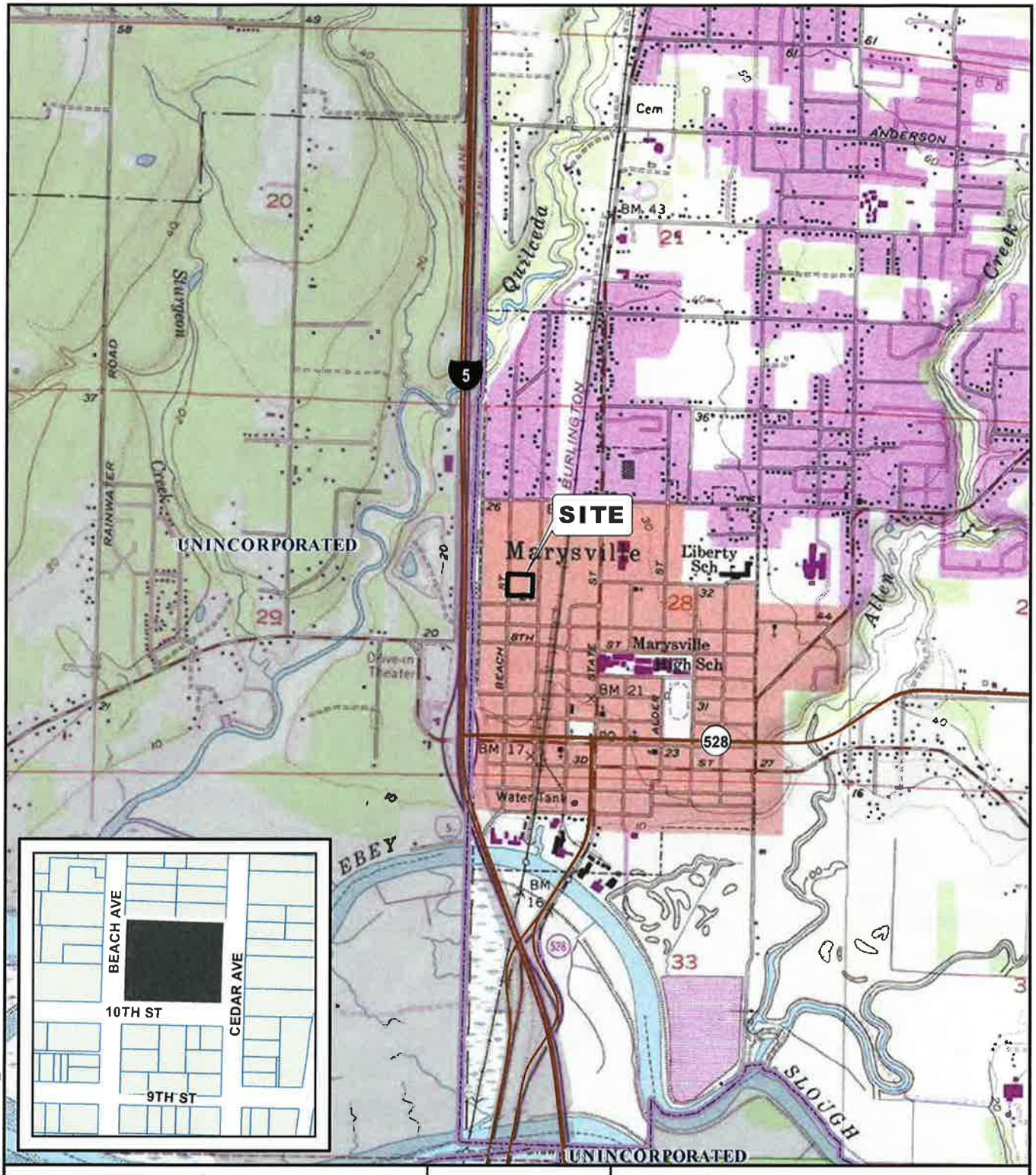
Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

Tyler Gilsdorf, G.I.T.
Senior Staff Geologist

Anthony W. Romanick, P.E.
Project Engineer

Matthew A. Miller, P.E.
Principal Engineer

Attachments:
Figure 1: Vicinity Map
Figure 2: Site and Exploration Plan
Appendix: Exploration Logs



DATA SOURCES / REFERENCES:
USGS: 7.5' SERIES TOPOGRAPHIC MAPS, ESRI/I-CUBED/NGS 2013
SNOHOMISH CO: STREETS, CITY LIMITS, PARCELS, 1/18

LOCATIONS AND DISTANCES SHOWN ARE APPROXIMATE

N

0 1000 2000

FEET

NOTE: BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION

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VICINITY MAP

CEDAR FIELD LIGHTING
MARYSVILLE, WASHINGTON

PROJ NO.	DATE:	FIGURE:
180110E001	3/18	1

Document Path: G:\GIS_Projects\aaY2018\VM\180110E001 F1 VM_CedarField.mxd

LEGEND:

EB EXPLORATION BORING

CONTOUR INTERVAL = N/A

NOTE: LOCATION AND DISTANCES SHOWN ARE APPROXIMATE.

NOTES:

1. BASE MAP REFERENCE: CITY OF MARYSVILLE PUBLIC WORKS DEPARTMENT, CEDAR FIELDS LAYOUT, 2/1/18

BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

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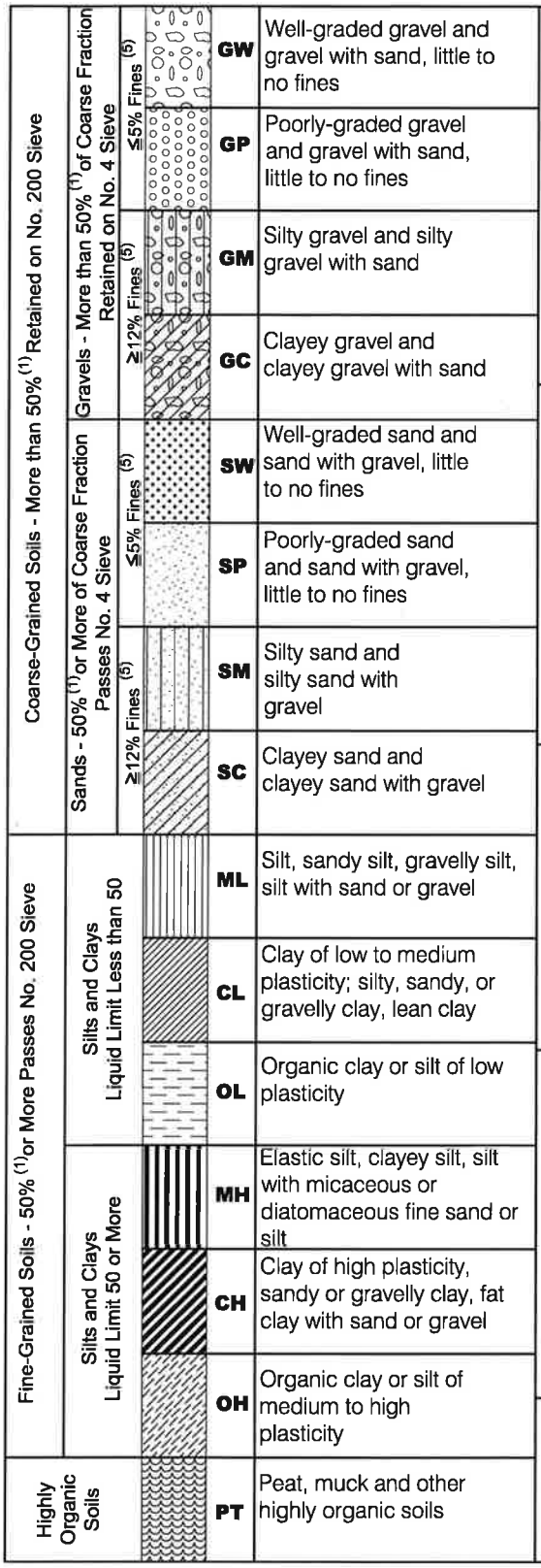
SITE AND EXPLORATION PLAN

CEDAR FIELD LIGHTING
MARYSVILLE, WASHINGTON

PROJ NO.	DATE:	FIGURE:
180110E001	3/18	2

180110 Cedar Field\ 180110E001 F2 S-E Plan.cdr

APPENDIX



Terms Describing Relative Density and Consistency

	Density	SPT (2) blows/foot
Coarse-Grained Soils	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50
	Consistency	**SPT (2) blows/foot**
Fine-Grained Soils	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Chemical
DD = Dry Density
K = Permeability

Component Definitions

Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
Sand	No. 4 (4.75 mm) to No. 200 (0.075 mm)
Coarse Sand	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	Smaller than No. 200 (0.075 mm)

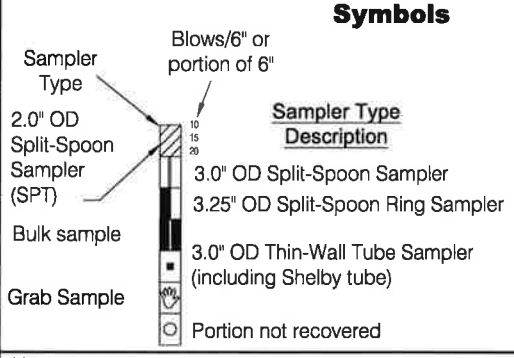
(3) Estimated Percentage

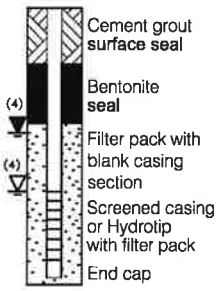
Component	Percentage by Weight
Trace	<5
Some	5 to <12
Modifier (silty, sandy, gravelly)	12 to <30
Very *modifier* (silty, sandy, gravelly)	30 to <50

Moisture Content

Dry - Absence of moisture, dusty, dry to the touch
Slightly Moist - Perceptible moisture
Moist - Damp but no visible water
Very Moist - Water visible but not free draining
Wet - Visible free water, usually from below water table

Symbols





(1) Percentage by dry weight
(2) (SPT) Standard Penetration Test (ASTM D-1586)
(3) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)
(4) Depth of ground water
▼ ATD = At time of drilling
▽ Static water level (date)
(5) Combined USCS symbols used for fines between 5% and 12%

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.

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EXPLORATION LOG KEY

FIGURE A1

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Exploration Log

Project Number	Exploration Number	Sheet
180110E001	EB-1	1 of 1

Project Name	Cedar Field Lighting	Ground Surface Elevation (ft)	
Location	Marysville, WA	Datum	N/A
Driller/Equipment	Geologic Drill / Walk-Behind	Date Start/Finish	3/20/18,3/20/18
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	4 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				Asphalt - 4 inches					
				Crushed Rock - 4 inches					
				Marysville Recessional Sands					
		S-1		Moist, light brown to tan with minor oxidation, fine to medium SAND, trace silt, trace gravel; massive (SP).			3 2 3	▲5	
5		S-2		Very moist, light brown to light gray, fine to medium SAND, trace silt, trace gravel; massive (SP).			3 3 2	▲5	
		S-3		As above, wet.			5 6 8	▲14	
10		S-4		Driller reported heaving sands at 10 feet, added drilling mud. Wet, light grayish brown with zones of oxidation, fine to medium SAND, trace silt, trace gravel; slight sorting of fine and medium sand (SP).			5 8 9	▲17	
15		S-5		Wet, brownish gray, fine SAND, trace silt; mica flakes (SP).			4 4 8	▲12	
20		S-6		Wet, grayish brown, fine SAND, some silt; mica flakes (SP-SM).			5 8 12	▲20	
				Bottom of exploration boring at 21.5 feet					
25									

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture

- Water Level ()
- Water Level at time of drilling (ATD)

Logged by: TG

Approved by: JHS

AESIBOR 180110.GPJ April 18, 2018

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Exploration Log

Project Number	Exploration Number	Sheet
180110E001	EB-2	1 of 1

Project Name	Cedar Field Lighting	Ground Surface Elevation (ft)	
Location	Marysville, WA	Datum	N/A
Driller/Equipment	Geologic Drill / Walk-Behind	Date Start/Finish	3/20/18,3/20/18
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	4 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				Asphalt - 3 inches **Crushed Rock - 3 inches** **Topsoil** **Marysville Recessional Sands**					
		S-1		Moist, light brown to reddish tan, fine SAND, trace gravel, trace silt; massive (SP).			3 3 3	▲6	
5		S-2		Moist to very moist, light brown to light gray with oxidation in upper 6 inches, fine to medium SAND, some silt, trace gravel; sorting of fine and medium sand apparent (SP-SM).			4 4 5	▲9	
		S-3		Very moist to wet, light brownish gray, fine SAND, trace silt, grace gravel; massive (SP).		▼	6 5 5	▲10	
10		S-4		Driller reported heaving sands at 10 feet, added drilling mud. Wet, light brownish gray, fine SAND, some silt, trace gravel; contains a layer (2 inches thick) of sandy, silt (SP-SM).			6 7 11	▲18	
15		S-5		Wet, light brownish gray, fine to medium SAND, some silt, trace gravel; silt nodule (1 inch) in sampler (SP-SM).			6 4 8	▲12	
20		S-6		Wet, light brownish gray, very silty, fine SAND, trace gravel (SM). Layer (4 inches thick) of oxidized, SILT (ML).			3 6 9	▲15	
				Bottom of exploration boring at 21.5 feet					
25									

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture

- Water Level ()
- Water Level at time of drilling (ATD)

Logged by: TG

Approved by: JHS

AESIBOR 180110.GPJ April 18, 2018

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Exploration Log

Project Number	Exploration Number	Sheet
180110E001	EB-3	1 of 1

Project Name	Cedar Field Lighting	Ground Surface Elevation (ft)	
Location	Marysville, WA	Datum	N/A
Driller/Equipment	Geologic Drill / Walk-Behind	Date Start/Finish	3/20/18,3/20/18
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	4 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				Asphalt - 2 inches **Crushed Rock - 3 inches** **Marysville Recessional Sands**					
		S-1		Moist, light brown, fine SAND, trace silt, trace gravel; massive (SP).			3 2 3	▲5	
5		S-2		Very moist, brown and gray, gravelly, fine to medium SAND, trace silt; heavily oxidized sand in sampler tip (SP).		▼	5 8 6	▲14	
		S-3		Very moist to wet, light gray and brown, fine to medium SAND, some silt, trace gravel; contains layer (1 inch thick) of sandy, silt (SP-SM).			2 4 4	▲8	
10		S-4		Driller reported heaving sands at 10 feet, added drilling mud. Wet, light brownish gray, silty, fine SAND, trace gravel (SM). Lowest 6 inches: Very silty, fine SAND.			2 3 4	▲7	
15		S-5		Wet, light brownish gray, silty, fine SAND (SM).			5 4 8	▲12	
20		S-6		Wet, light brownish gray, silty, fine SAND; mica flakes (SM).			5 9 11	▲20	
				Bottom of exploration boring at 21.5 feet					
25									

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture

- Water Level ()
- Water Level at time of drilling (ATD)

Logged by: TG
Approved by: JHS

AESIBOR 180110.GPJ April 18, 2018

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Exploration Log

Project Number	Exploration Number	Sheet
180110E001	EB-4	1 of 1

Project Name	Cedar Field Lighting	Ground Surface Elevation (ft)	
Location	Marysville, WA	Datum	N/A
Driller/Equipment	Geologic Drill / Walk-Behind	Date Start/Finish	3/20/18,3/20/18
Hammer Weight/Drop	140# / 30"	Hole Diameter (in)	4 inches

Depth (ft)	ST	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot (10 20 30 40)	Other Tests
				Grass Turf / Topsoil					
				Marysville Recessional Sands					
		S-1		Moist, light brown to tan, fine SAND, trace silt, trace gravel; massive (SP).			4 2 2	▲4	
5		S-2		Very moist, light brown and gray, gravelly, fine to medium SAND, trace silt; massive (SP).		▼	7 8 10	▲18	
		S-3		Very moist to wet, light brown and gray, silty, fine to medium SAND ranging to sandy, SILT; mica flakes; minor oxidation around siltier clasts (SM-ML).			10 10 13	▲23	
10		S-4		Driller reported heaving sands at 10 feet, added drilling mud. Wet, light brown and gray, silty, fine SAND; mica flakes; siltier layers (SM).			4 8 15	▲23	
15		S-5		Wet, light brownish gray, fine SAND, some silt, trace gravel; mica flakes (SP-SM).			12 14 17	▲31	
20		S-6		Wet, light gray, fine to medium SAND, trace silt, trace gravel; mica flakes (SP).			8 10 15	▲25	
				Bottom of exploration boring at 21.5 feet					
25									

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample

M - Moisture

▽ Water Level ()

▼ Water Level at time of drilling (ATD)

Logged by: TG

Approved by: JHS

AESIBOR 180110.GPJ April 18, 2018